# nF2 U400SG-AGF
# nF2 U400S-AL

## System Board
## User's Manual

82200435

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## Caution

To avoid damage to the system:

- Use the correct AC input voltage range.

To reduce the risk of electric shock:

- Unplug the power cord before removing the system chassis cover for installation or servicing. After installation or servicing, cover the system chassis before plugging the power cord.

Battery:

- Danger of explosion if battery incorrectly replaced.
- Replace only with the same or equivalent type recommend by the manufacturer.
- Dispose of used batteries according to the battery manufacturer's instructions.

## FCC and DOC Statement on Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

Notice:

1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2. Shielded interface cables must be used in order to comply with the emission limits.

## About this Manual

This user's manual contains detailed information about the system board. If, in some cases, some information doesn't match those shown in the multilingual manual, the multilingual manual should always be regarded as the most updated version. The multilingual manual is included in the system board package.

To view the user's manual, insert the CD into a CD-ROM drive. The autorun screen (Mainboard Utility CD) will appear. Click the "TOOLS" icon then click "Manual" on the main menu.

## About the Package

The system board and accessories in the package may not come similar to the information stated in this manual. This may differ in accordance to the sales region or models in which it was sold. For more information about the standard package in your region, please contact your dealer or sales representative.

## Warranty

1. Warranty does not cover damages or failures that arised from misuse of the product, inability to use the product, unauthorized replacement or alteration of components and product specifications.

2. The warranty is void if the product has been subjected to physical abuse, improper installation, modification, accidents or unauthorized repair of the product.

3. Unless otherwise instructed in this user's manual, the user may not, under any circumstances, attempt to perform service, adjustments or repairs on the product, whether in or out of warranty. It must be returned to the purchase point, factory or authorized service agency for all such work.

4. We will not be liable for any indirect, special, incidental or consequencial damages to the product that has been modified or altered.

# Table of Contents

## Chapter 1 - Introduction


1.1 Specifications ..... 7
1.2 Special Features of the System Board ..... 10
1.3 Package Checklist ..... 14


## Chapter 2 - Hardware Installation


2.1 System Board Layout ..... 15
2.2 System Memory ..... 17
2.3 CPU ..... 20
2.4 Jumper Settings ..... 24
2.5 Rear Panel I/O Ports ..... 28
2.6 I/O Connectors ..... 39


## Chapter 3 - Award BIOS Setup Utility


3.1 The Basic Input/Output System ..... 53
3.2 NVRAID BIOS ..... 94
3.3 Updating the BIOS ..... 95


## Chapter 4 - Supported Softwares


4.1 Drivers, Utilities and Software Applications ..... 97
4.2 Installation Notes ..... 107

## Appendix A - System Error Messages

A.1 POST Beep.....108
A.2 Error Messages.....108

## Appendix B - Troubleshooting

B.1 Troubleshooting Checklist.....110

## Notice

This user's manual is for the nF2 U400SG-AGF and nF2 U400S-AL system boards. The differences between these boards are shown below.

| | |
|---|---|
| nF2 U400SG-AGF | NVIDIA nForce2 Ultra 400 and nForce2 MCP GIG |
| | VIA VT6307 supports 2 IEEE 1394 connectors |
| | Gigabit Phy supports 10/100/1000Mbps |
| nF2 U400S-AL | NVIDIA nForce2 Ultra 400 and nForce2 MCP RAID |
| | IEEE 1394 - not supported |
| | LAN Phy supports 10/100Mbps |

# Chapter 1 - Introduction

## 1.1 Specifications

### Processor

- AMD Sempron™ and Athlon™ XP (up to 3200+)
- AMD Duron™
- Socket A

### Front Side Bus

- 266/333/400MHz

### Chipset

- nF2 U400SG-AGF
  nVIDIA® nForce2 Ultra 400Gb
  - North bridge: nForce2 Ultra 400
  - South bridge: nForce2 MCP GIG
- nF2 U400S-AL
  nVIDIA® nForce2 Ultra 400R
  - North bridge: nForce2 Ultra 400
  - South bridge: nForce2 MCP RAID

### System Memory

- Three 184-pin DDR SDRAM DIMM sockets
- Supports dual channel (128-bit wide) memory interface
- Supports up to 3GB memory
- Supports PC2100 (DDR266), PC2700 (DDR333) and PC3200 (DDR400) DDR SDRAM DIMM
- Supports x8/x16, non-ECC, up to 512Mb DDR devices
- Supports unbuffered DIMM

### BIOS

- Award BIOS
- CPU/DRAM/AGP overclocking
- CPU/DRAM/AGP overvoltage
- 4Mbit flash memory

### Energy Efficient Design

- Supports ACPI specification and OS Directed Power Management
- Supports ACPI STR (Suspend to RAM) function

- Wake-On-Events include:
  - Wake-On-PS/2 Keyboard/Mouse
  - Wake-On-Ring (external modem)
  - Wake-On-LAN
  - RTC timer to power-on the system
- AC power failure recovery

### Hardware Monitor

- Monitors CPU/system temperature
- Monitors 12V/5V/3.3V/Vcore/Vbat/5Vsb/3.3Vsb voltages
- Monitors the speed of the CPU fan and chassis fan
- CPU Overheat Protection function monitors CPU temperature during system boot-up

### Audio Features

- AC'97 CODEC
- Supports Microsoft® DirectSound/DirectSound 3D
- AC'97 supported with full duplex, independent sample rate converter for audio recording and playback
- S/PDIF-in/out interface
- 6-channel audio output

### Onboard LAN Features

- nF2 U400SG-AGF
  - Marvell 88E1111 Gigabit Phy supports 10/100/1000Mbps
  - Fully compliant to IEEE 802.3 (10BASE-T), 802.3u (100BASE-TX) and 802.3ab (1000BASE-T) standards
- nF2 U400S-AL
  - LAN Phy supports 10/100Mbps
  - Fully compliant to IEEE 802.3 (10BASE-T) and 802.3u (100BASE-TX) standards

### IDE Interface with NVIDIA RAID

- Two IDE connectors support four UltraDMA 133Mbps hard drives
- NVIDIA RAID supports spanning across Serial ATA and Parallel ATA
- RAID 0, RAID 1, RAID 0+1 and JBOD

### Serial ATA Interface with NVIDIA RAID

- Two Serial ATA interfaces with speed up to 1.5Gbps
- NVIDIA RAID supports spanning across Serial ATA and Parallel ATA
- RAID 0, RAID 1, RAID 0+1 and JBOD

### IEEE 1394 Interface (nF2 U400SG-AGF only)

- VIA VT6307 controller
- Supports two 100/200/400 Mb/sec ports

### Accelerated Graphics Port (A.G.P.)

- Supports AGP 8x up to 2132MB/sec. and AGP 4x up to 1066MB/sec. bandwidth for 3D graphics applications
- Supports 0.8/1.5V add-in cards

### Rear Panel I/O Ports

- 1 PS/2 mouse port
- 1 PS/2 keyboard port
- 1 DB-25 parallel port
- 2 S/PDIF RCA jacks (S/PDIF-in and S/PDIF-out)
- 1 DB-9 serial port
- 1 RJ45 LAN port
- 4 USB 2.0/1.1 ports
- Line-in, line-out and mic-in jacks

### I/O Connectors

- 2 connectors for 4 additional external USB 2.0/1.1 ports
- 2 connectors for 2 external IEEE 1394 ports (nF2 U400SG-AGF only)
- 1 front audio connector for external line-out and mic-in jacks
- 1 CD-in internal audio connector
- 1 S/PDIF connector for optical cable connection
- 1 IrDA connector
- 2 Serial ATA connectors
- 2 IDE connectors
- 1 floppy connector
- 1 20-pin ATX power connector
- 1 4-pin ATX 12V power connector
- 1 front panel connector
- 2 fan connectors

### Expansion Slots

- 1 AGP 8x/4x slot
- 5 PCI slots

### PCB

- ATX form factor
- 30.5cm (12") x 24cm (9.44")

## 1.2 Special Features of the System Board

### CPU Overheat Protection

CPU Overheat Protection has the capability of monitoring the CPU's temperature during system boot up. Once the CPU's temperature exceeded the temperature limit pre-defined by the CPU, the system will automatically shutdown. This preventive measure has been added to protect the CPU from damage and insure a safe computing environment.

### DDR

DDR (Double Data Rate) is a type of SDRAM that doubles the data rate through reading and writing at both the rising and falling edge of each clock. This effectively doubles the speed of operation therefore providing two times faster data transfer.

### S/PDIF

S/PDIF is a standard audio file transfer format that transfers digital audio signals to a device without having to be converted first to an analog format. This prevents the quality of the audio signal from degrading whenever it is converted to analog. S/PDIF is usually found on digital audio equipment such as a DAT machine or audio processing device. The S/PDIF connector on the system board sends surround sound and 3D audio signal outputs to amplifiers and speakers and to digital recording devices like CD recorders.

### 6-channel Audio

The audio jacks at the rear panel will support 6-channel audio only when the audio utility is configured to support this function.

## Serial ATA Interface

Serial ATA is a storage interface that is compliant with SATA 1.0 specification. With speed of up to 1.5Gbps, it improves hard drive performance faster than the standard parallel ATA.

## NVIDIA RAID

NVIDIA RAID supports spanning across Serial ATA and Parallel ATA. It supports RAID 0, RAID 1, RAID 0+1 and JBOD.

## IEEE 1394 Interface (nF2 U400SG-AGF only)

IEEE 1394 is fully compliant with the 1394 OHCI (Open Host Controller Interface) 1.1 specification. It supports up to 63 devices that can run simultaneously on a system. 1394 is a fast external bus standard that supports data transfer rates of up to 400Mbps. In addition to its high speed, it also supports isochronous data transfer which is ideal for video devices that need to transfer high levels of data in real-time. 1394 supports both Plug-and-Play and hot plugging.

## IrDA Interface

The system board is equipped with an IrDA connector for wireless connectivity between your computer and peripheral devices. The IRDA (Infrared Data Association) specification supports data transfers of 115K baud at a distance of 1 meter.

## USB Ports

The system board supports USB 2.0 and USB 1.1 ports. USB 1.1 supports 12Mb/second bandwidth while USB 2.0 supports 480Mb/second bandwidth providing a marked improvement in device transfer speeds between your computer and a wide range of simultaneously accessible external Plug and Play peripherals.

## Dual Function Power Button

Depending on the setting in the "Soft-Off By PBTN" field of the Power Management Setup, this switch will allow the system to enter the Soft-Off or Suspend mode.

## AGP (Accelerated Graphics Port)

AGP is an interface designed to support high performance 3D graphics cards. It utilizes a dedicated pipeline to access system memory for texturing, z-buffering and alpha blending. The AGP slot supports AGP 8x (0.8V) with up to 2.13GB/sec. bandwidth and AGP 4x (1.5V) with up to 1066MB/sec. bandwidth for 3D graphics applications. AGP in this system board will deliver faster and better graphics to your PC.

## Wake-On-Ring

This feature allows the system that is in the Suspend mode or Soft Power Off mode to wake-up/power-on to respond to calls coming from an external modem or respond to calls from a modem PCI card that uses the PCI PME (Power Management Event) signal to remotely wake up the PC.

**Important:**
*If you are using a modem add-in card, the 5VSB power source of your power supply must support a minimum of ≥720mA.*

## Wake-On-LAN

This feature allows the network to remotely wake up a Soft Power Down (Soft-Off) PC. It is supported via the onboard LAN port or via a PCI LAN card that uses the PCI PME (Power Management Event) signal. However, if your system is in the Suspend mode, you can power-on the system only through an IRQ or DMA interrupt.

**Important:**
*The 5VSB power source of your power supply must support ≥720mA.*

## Wake-On-PS/2 Keyboard/Mouse

This function allows you to use the PS/2 keyboard or PS/2 mouse to power-on the system.

**Important:**
*The 5VSB power source of your power supply must support ≥720mA.*

## RTC Timer to Power-on the System

The RTC installed on the system board allows your system to automatically power-on on the set date and time.

## AC Power Failure Recovery

When power returns after an AC power failure, you may choose to either allow the system to power-on automatically or leave the system in Off state.

## ACPI

The system board is designed to meet the ACPI (Advanced Configuration and Power Interface) specification. ACPI has energy saving features that enables PCs to implement Power Management and Plug-and-Play with operating systems that support OS Direct Power Management. Currently, only Windows® 98/2000/ME/XP supports the ACPI function allowing you to use the Suspend to RAM function.

With the Suspend to RAM function enabled, you can power-off the system at once by pressing the power button or selecting "Standby" when you shut down Windows® 98/2000/ME/XP without having to go through the sometimes tiresome process of closing files, applications and operating system. This is because the system is capable of storing all programs and data files during the entire operating session into RAM (Random Access Memory) when it powers-off. The operating session will resume exactly where you left off the next time you power-on the system.

**Important:**
*The 5VSB power source of your power supply must support ≥1A.*

## Virus Protection

Most viruses today destroy data stored in hard drives. The system board is designed to protect the boot sector and partition table of your hard disk drive.

## 1.3 Package Checklist

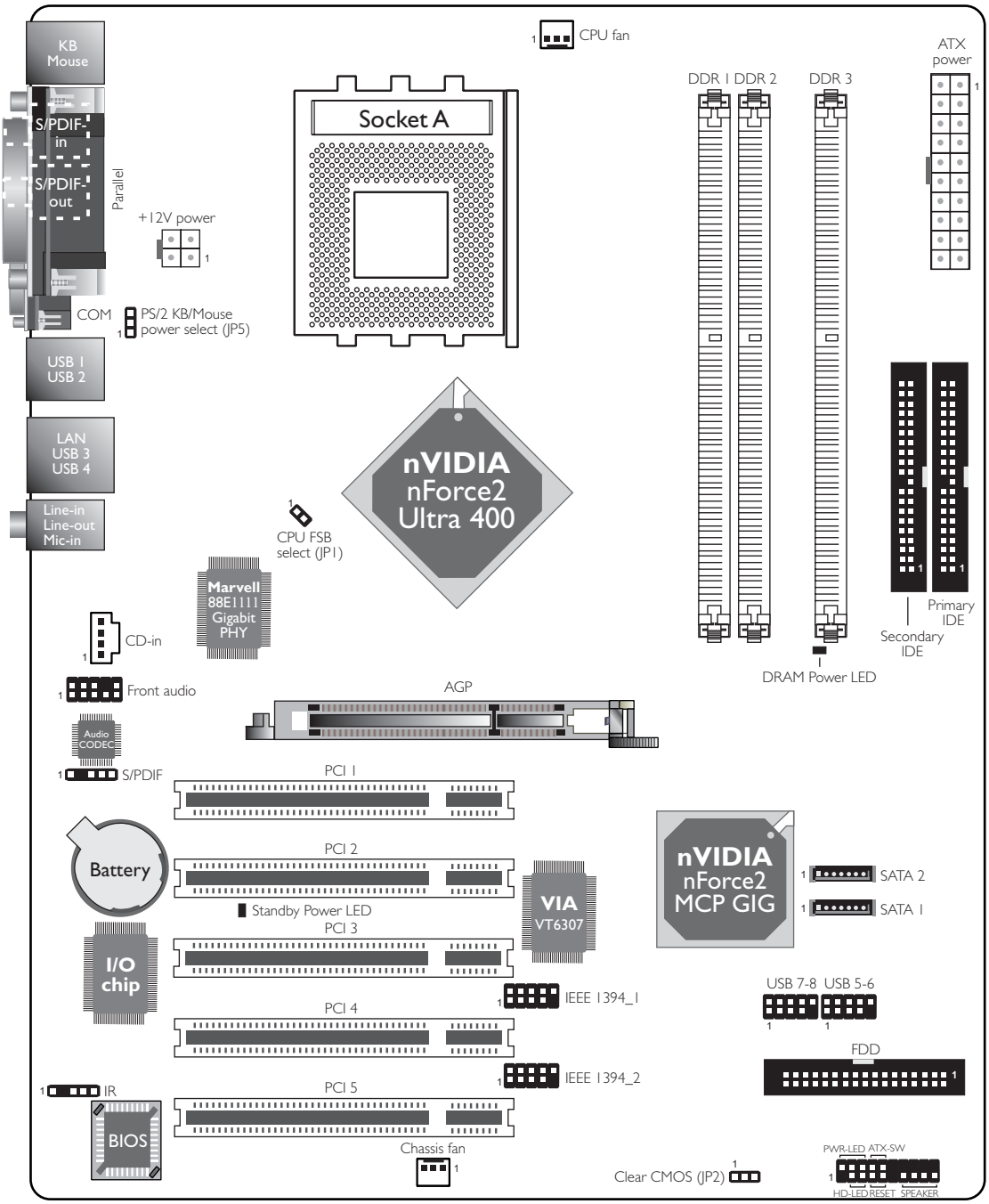
The system board package contains the following items:

- ☑ The system board
- ☑ A user's manual
- ☑ One IDE cable for UltraDMA 133 IDE drives
- ☑ One 34-pin floppy disk drive cable
- ☑ One Serial ATA data cable
- ☑ One card-edge bracket mounted with two IEEE 1394 ports (nF2 U400SG-AGF only)
- ☑ One "nVRAID Driver" diskette
- ☑ One I/O shield
- ☑ One "Mainboard Utility" CD

If any of these items are missing or damaged, please contact your dealer or sales representative for assistance.

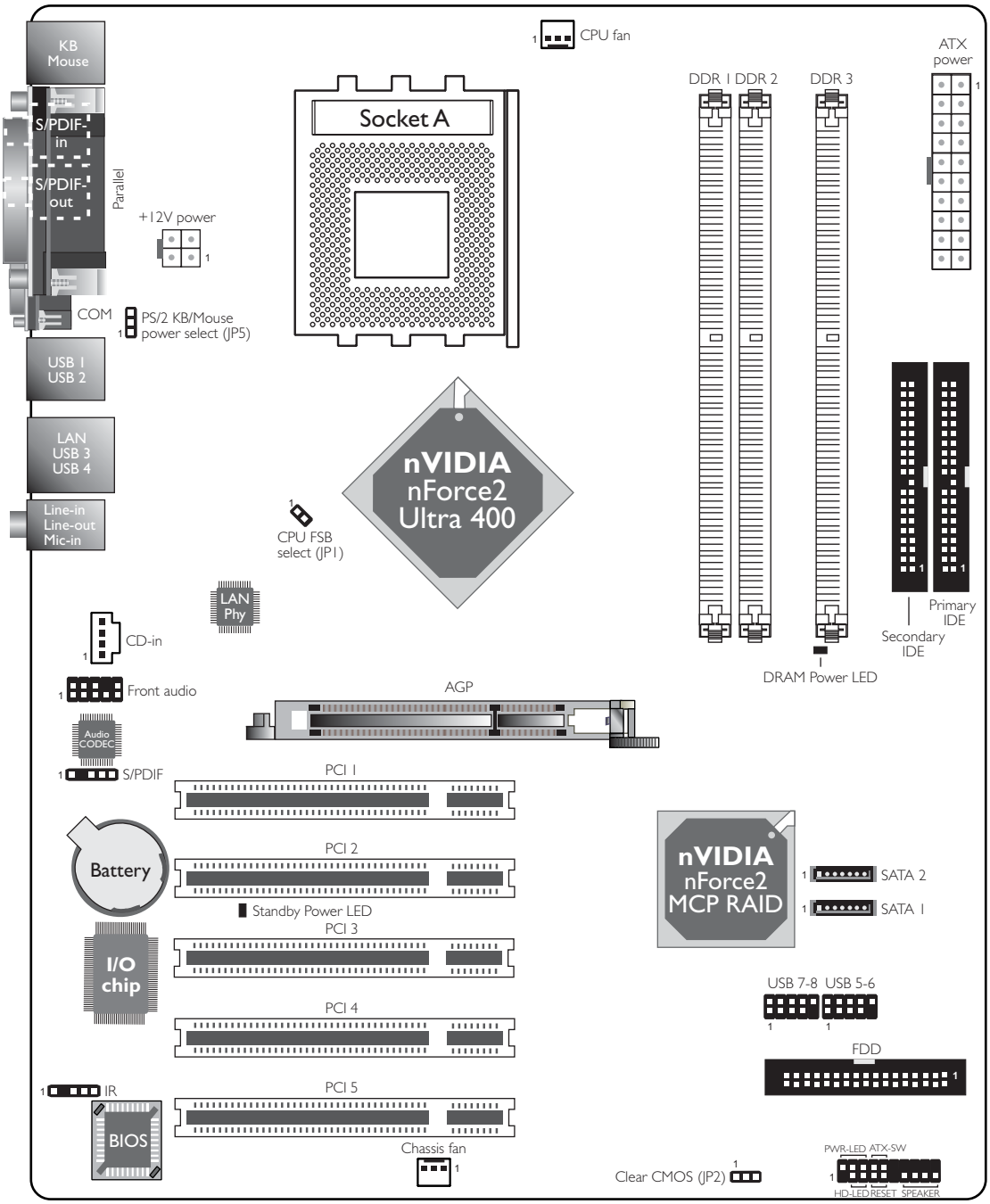
# Chapter 2 - Hardware Installation

## 2.1 System Board Layout




nF2 U400SG-AGF

# 2 Hardware Installation




nF2 U400S-AL

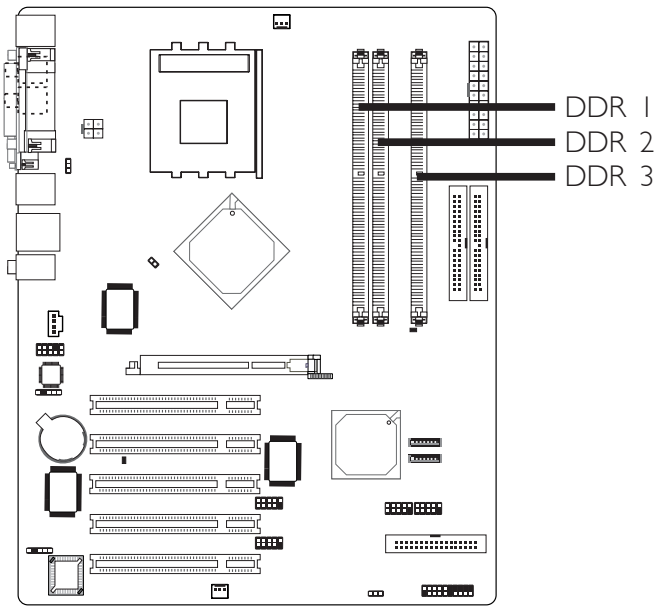
**Note:**

*The illustrations on the following pages are based on the system board that supports onboard IEEE 1394.*

**Warning:**
*Electrostatic discharge (ESD) can damage your system board, processor, disk drives, add-in boards, and other components. Perform the upgrade instruction procedures described at an ESD workstation only. If such a station is not available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the system chassis. If a wrist strap is unavailable, establish and maintain contact with the system chassis throughout any procedures requiring ESD protection.*

## 2.2 System Memory

**Warning:**
*When the DRAM Power LED lit red, it indicates that power is present on the DDR sockets. Power-off the PC then unplug the power cord prior to installing any memory modules. Failure to do so will cause severe damage to the motherboard and components.*




The system board supports DDR SDRAM DIMM. Double Data Rate SDRAM (DDR SDRAM) is a type of SDRAM that doubles the data rate through reading and writing at both the rising and falling edge of each clock. This effectively doubles the speed of operation therefore doubling the speed of data transfer.

Refer to chapter 1 (System Memory section) for detailed specification of the memory supported by the system board.

The three DDR DIMM sockets on the system board are divided into 2 channels:

1st channel - DDR 1 and DDR 2
2nd channel - DDR 3

The system board supports the following memory interface.

### Single Channel (SC)

Data will be accessed in chunks of 64 bits (8B) from the memory channels.

### Dual Channel (DC)

Dual channel provides better system performance because it doubles the data transfer rate.

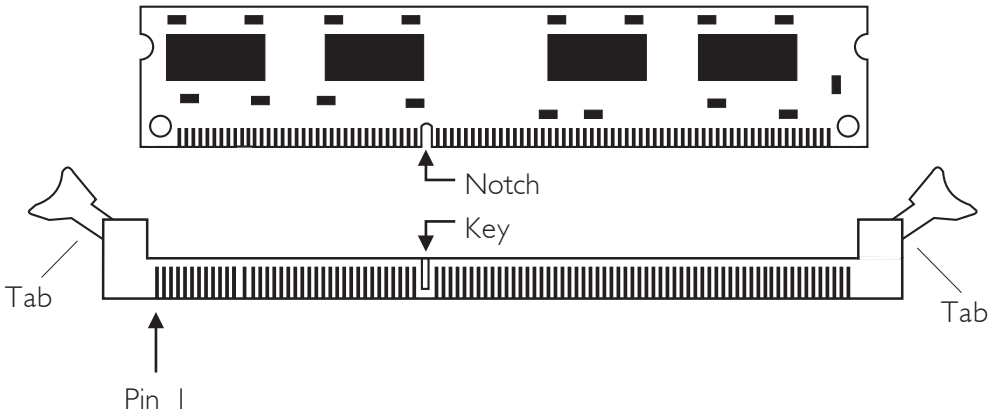
| | |
|---|---|
| **Single Channel** | • DIMMs are on the same channel.<br>• DIMMs in a channel can be identical or completely different. However, we highly recommend using identical DIMMs.<br>• Not all slots need to be populated. |
| **Dual Channel** | • DIMMs of the same memory configuration are on different channels. |

### BIOS Setting

Configure the system memory in the Genie BIOS Setting submenu of the BIOS.

## 2.2.1 Installing the DIM Module

A DIM module simply snaps into a DIMM socket on the system board. Pin 1 of the DIM module must correspond with Pin 1 of the socket.




1. Pull the "tabs" which are at the ends of the socket to the side.
2. Position the DIMM above the socket with the "notch" in the module aligned with the "key" on the socket.
3. Seat the module vertically into the socket. Make sure it is completely seated. The tabs will hold the DIMM in place.

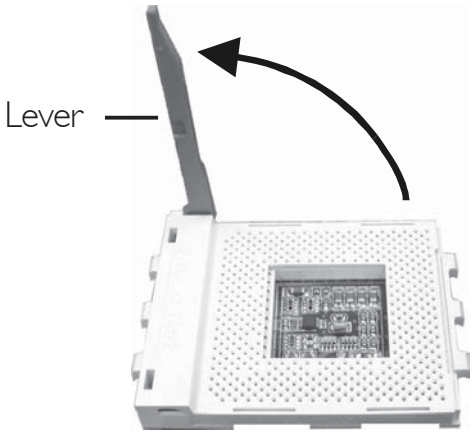
## 2.3 CPU

### 2.3.1 Overview

The system board is equipped with a surface mount Socket A CPU socket. This socket is exclusively designed for installing an AMD CPU.

### 2.3.2 Installing the CPU

1. Make sure the PC and all other peripheral devices connected to it has been powered down.
2. Disconnect all power cords and cables.
3. Locate Socket A on the system board.
4. Unlock the socket by pushing the lever sideways, away from the socket, then lifting it up to a 90° angle. Make sure the socket is lifted to at least this angle otherwise the CPU will not fit in properly.

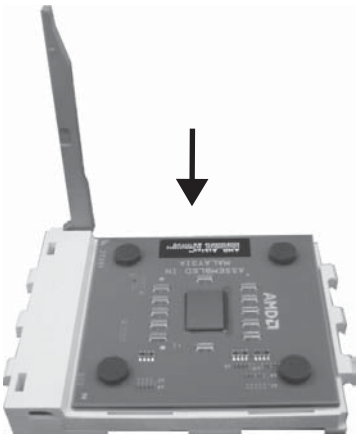


5. Position the CPU above the socket then align the gold mark on the corner of the CPU (designated as pin 1) with pin 1 of the socket.

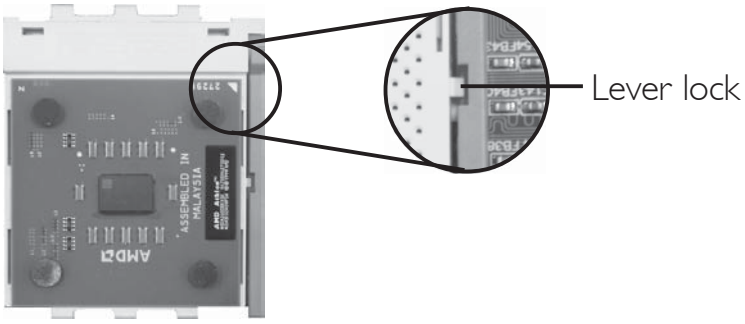
**Important:**
*Handle the CPU by its edges and avoid touching the pins.*

6. Insert the CPU into the socket until it is seated in place. The CPU will fit in only one orientation and can easily be inserted without exerting any force.

**Important:**
*Do not force the CPU into the socket. Forcing the CPU into the socket may bend the pins and damage the CPU.*



7. Once the CPU is in place, push down the lever to lock the socket. The lever should click on the side tab to indicate that the CPU is completely secured in the socket.

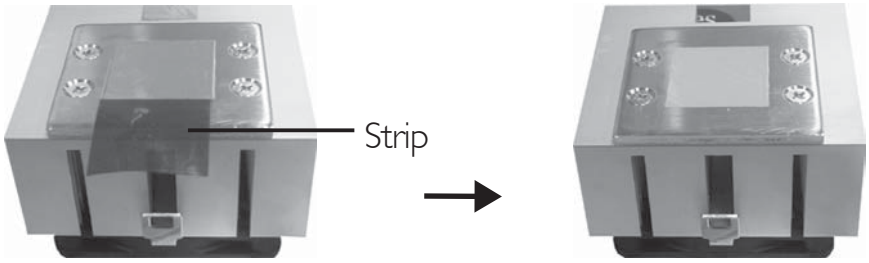



### 2.3.3 Installing the Fan and Heat Sink

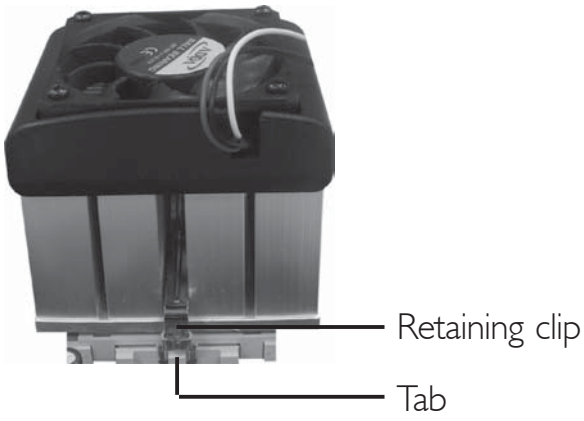
The CPU must be kept cool by using a CPU fan with heat sink. Without sufficient air circulation across the CPU and heat sink, the CPU will overheat damaging both the CPU and system board.

1. Before you install the fan / heat sink, you must apply a thermal paste onto the top of the CPU. The thermal paste, which is usually supplied together with the CPU, looks somewhat similar to the one shown below. Do not spread the paste all over the surface. When you later place the heat sink on top of the CPU, the compound will disperse evenly.

Do not apply the paste if the fan / heat sink already has a patch of thermal paste on its underside. Peel the strip that covers the paste then place the fan / heat sink on top of the CPU.




2. After placing the fan / heat sink on top of the CPU, latch the retaining clip on one side of the fan heat sink onto the protruding tab on the side of the socket.

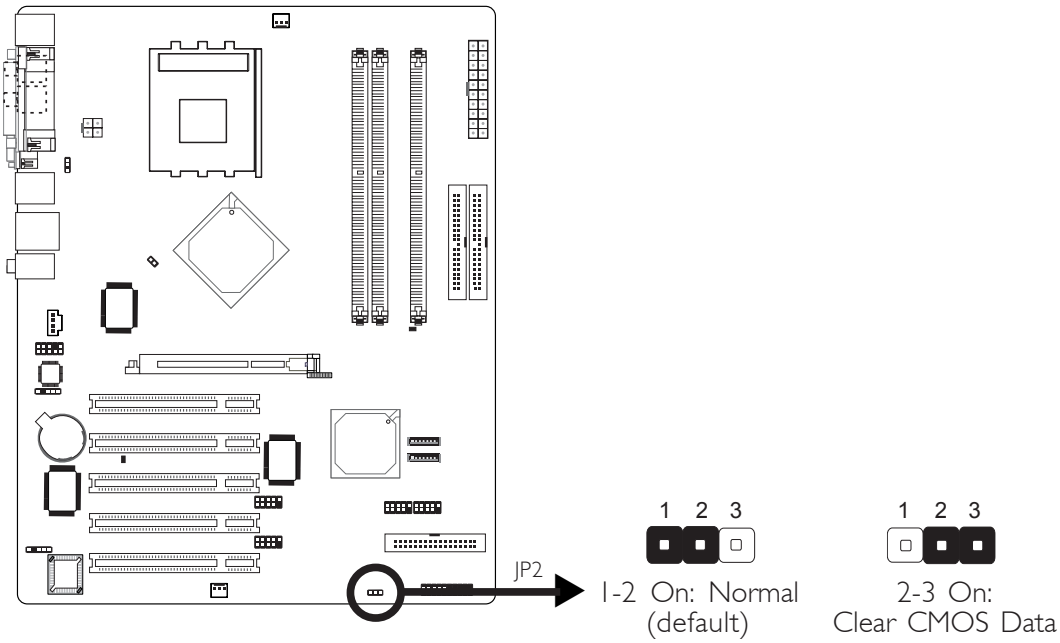



3. Push down the other retaining clip until it latches and lock onto the protruding tab on that side of the socket. Make sure there is sufficient air circulation across the CPU fan and heat sink.

4. Connect the CPU fan's cable connector to the CPU fan connector on the system board.

## 2.4 Jumper Settings

### 2.4.1 Clear CMOS Data




If you encounter the following,

*a) CMOS data becomes corrupted.*
*b) You forgot the keyboard, supervisor or user password.*
*c) You are unable to boot-up the computer system because the processor's clock/ratio was incorrectly set in the BIOS.*

you can reconfigure the system with the default values stored in the ROM BIOS.

To load the default values stored in the ROM BIOS, please follow the steps below.

1. Power-off the system and unplug the power cord.
2. Set JP2 pins 2 and 3 to On. Wait for a few seconds and set JP2 back to its default setting, pins 1 and 2 On.
3. Plug the power cord and power-on the system.

   If your reason for clearing the CMOS data is due to incorrect setting of the processor's clock/ratio in the BIOS, please proceed to step 4.

4. After powering-on the system, press <Del> to enter the main menu of the BIOS.

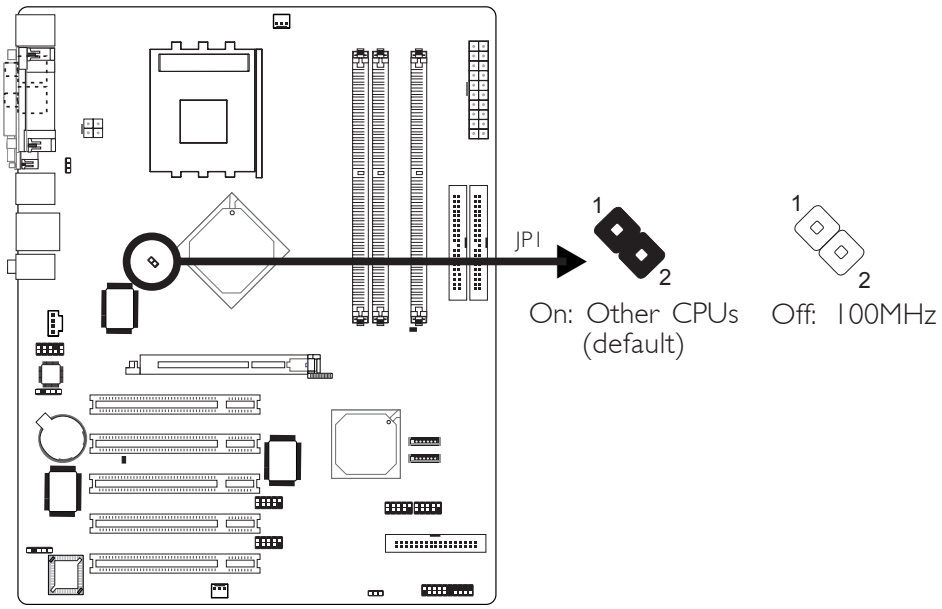
5. Select the Genie BIOS Setting submenu and press <Enter>.

6. Set the processor's clock/ratio to its default setting or an appropriate bus clock or ratio. Refer to the Genie BIOS Setting section in chapter 3 for more information.

7. Press <Esc> to return to the main menu of the BIOS setup utility. Select "Save & Exit Setup" and press <Enter>.

8. Type <Y> and press <Enter>.

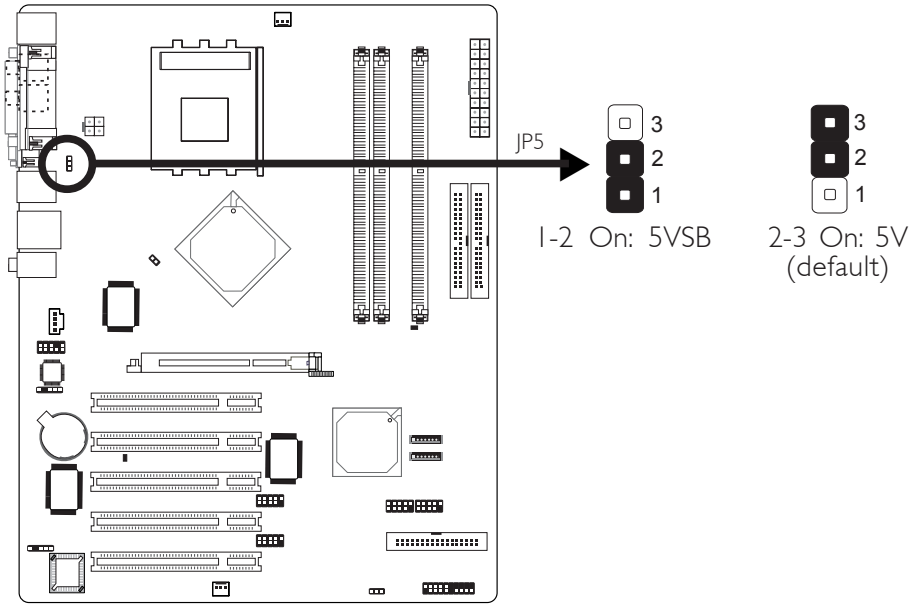
## 2.4.2 CPU FSB Select




JP1's default setting is On. If you want to set the FSB fixed at 100MHz, set JP1 to Off.

**Warning:**
*To ensure proper boot up and operation of your system, you must power-off the system then turn off the power supply's switch or unplug the AC power cord prior to altering the setting of the jumper.*

## 2.4.3 PS/2 Power Select



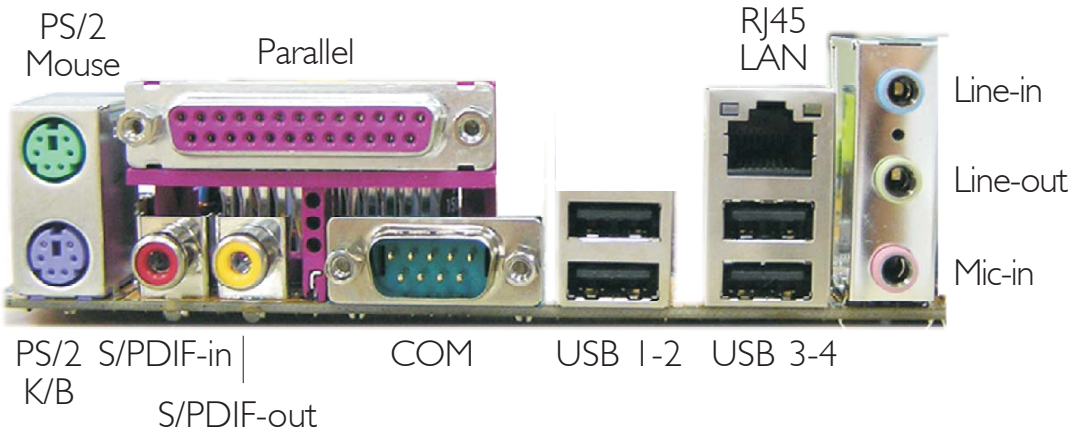

JP5 is used to select the power of the PS/2 keyboard/mouse ports. Selecting 5VSB will allow you to use the PS/2 keyboard or PS/2 mouse to wake up the system..

### BIOS Setting

Configure the wake up function in the Integrated Peripherals submenu ("Onboard Device" section) of the BIOS. Refer to chapter 3 for more information.

**Important:**
*The 5VSB power source of your power supply must support ≥720mA.*

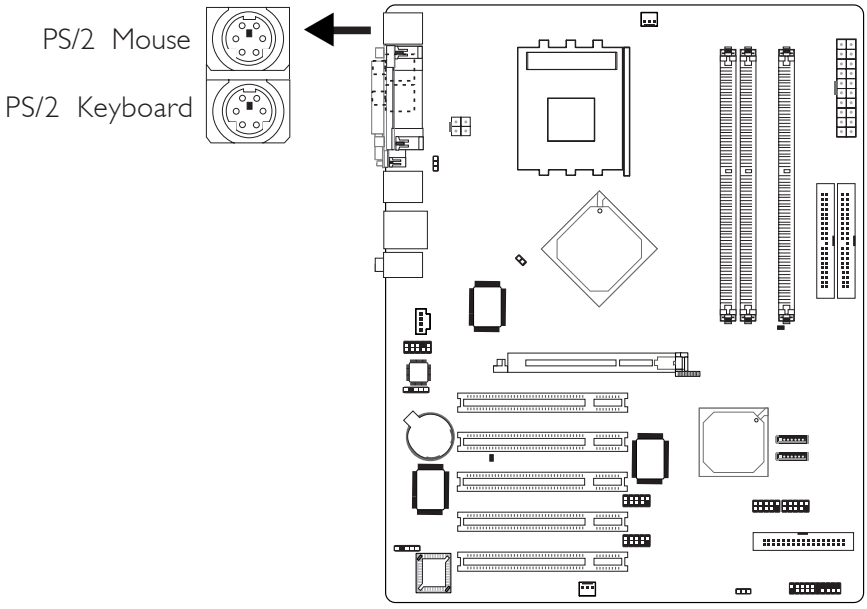
## 2.5 Rear Panel I/O Ports




The rear panel I/O ports consist of the following:

- PS/2 mouse port
- PS/2 keyboard port
- Parallel port
- S/PDIF-in jack
- S/PDIF-out jack
- COM port
- USB ports
- LAN port
- Line-in jack
- Line-out jack
- Mic-in jack

## 2.5.1 PS/2 Mouse and PS/2 Keyboard Ports




The system board is equipped with an onboard PS/2 mouse (Green) and PS/2 keyboard (Purple) ports - both at location CN2 of the system board. The PS/2 mouse port uses IRQ12. If a mouse is not connected to this port, the system will reserve IRQ12 for other expansion cards.

**Warning:**
*Make sure to turn off your computer prior to connecting or disconnecting a mouse or keyboard. Failure to do so may damage the system board.*

### Wake-On-PS/2 Keyboard/Mouse

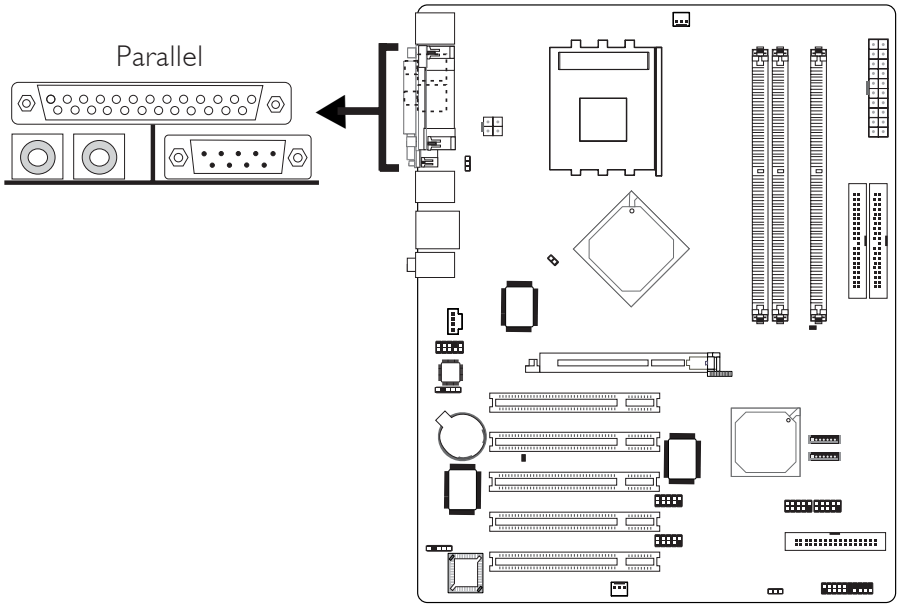
The Wake-On-PS/2 Keyboard/Mouse function allows you to use the PS/2 keyboard or PS/2 mouse to power-on the system. To use this function:

- **Jumper Setting:**
  JP5 must be set to "1-2 On: 5VSB". Refer to "PS/2 Power Select" in this chapter for more information.

- **BIOS Setting:**
  Configure the wake up function in the Integrated Peripherals submenu ("Onboard Device" section) of the BIOS. Refer to chapter 3 for more information.

**Important:**
*The 5VSB power source of your power supply must support ≥720mA.*

## 2.5.2 Parallel Port



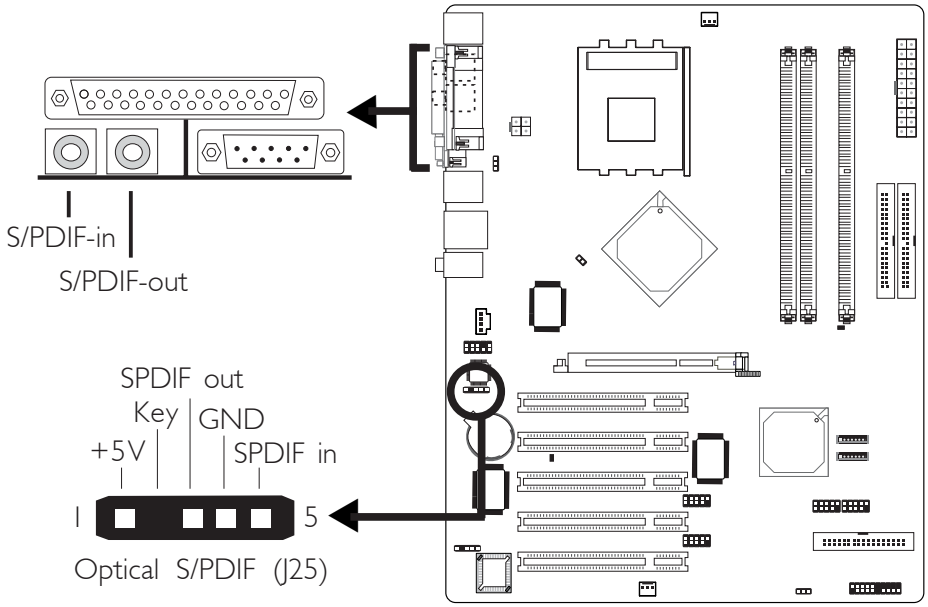

The system board has a standard parallel port (Burgundy) at location CN4 for interfacing your PC to a parallel printer. It supports SPP, ECP and EPP.

| Setting | Function |
|---|---|
| SPP<br>(Standard Parallel Port) | Allows normal speed operation but in one direction only. |
| ECP<br>(Extended Capabilities Port) | Allows parallel port to operate in bidirectional mode and at a speed faster than the SPP's data transfer rate. |
| EPP<br>(Enhanced Parallel Port) | Allows bidirectional parallel port operation at maximum speed. |

### BIOS Setting

Select the parallel port's mode in the Integrated Peripherals submenu ("Onboard Device" section) of the BIOS. Refer to chapter 3 for more information.

## 2.5.3 S/PDIF

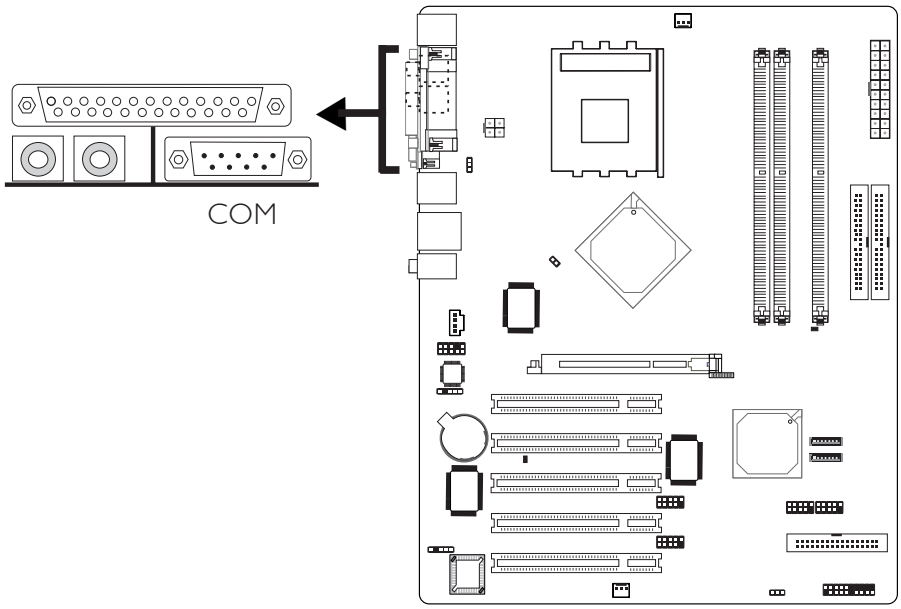



The system board is equipped with an onboard S/PDIF-in RCA jack (red) and a S/PDIF-out RCA jack (yellow) at locations CN7 and CN5 respectively.

The S/PDIF connector at location J25 is for optical S/PDIF cable connection. Connect the optical audio cable connector of your S/PDIF module to J25. Make sure pin 1 of the audio cable connector is aligned with pin 1 of J25.

DO NOT use RCA S/PDIF and optical S/PDIF at the same time.

## 2.5.4 Serial Port

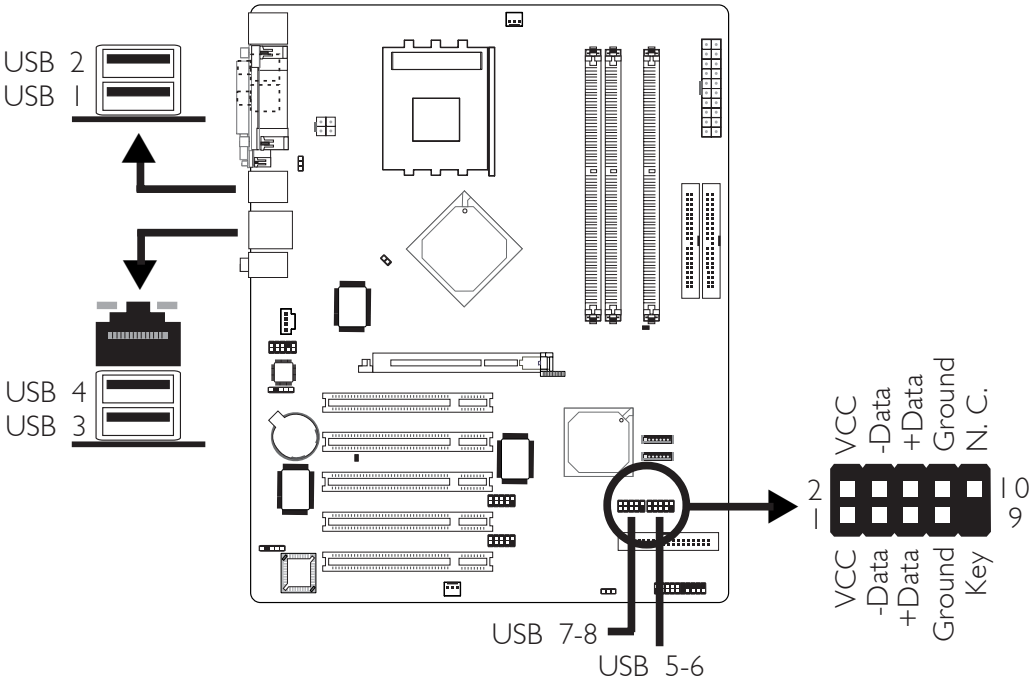



The system board is equipped with an onboard serial port (Teal/ Turquoise) at location CN1. The serial port is an RS-232C asynchronous communication port with 16C550A-compatible UARTs that can be used with a modem, serial printer, remote display terminal or other serial devices.

### BIOS Setting

Select the serial port's I/O address in the Integrated Peripherals submenu ("Onboard Device" section) of the BIOS. Refer to chapter 3 for more information.

## 2.5.5 Universal Serial Bus Ports




Four onboard USB 2.0/1.1 ports (Black) are at locations CN12 (USB 1-2) and CN11 (USB 3-4) of the system board.

J24 (USB 5-6) and J29 (USB 7-8) connectors allow you to connect 4 additional USB 2.0/1.1 ports. The USB ports may be mounted on a card-edge bracket. Install the card-edge bracket to the system chassis then insert the connector that is attached to the USB port cables to J24 or J29.

### BIOS Setting

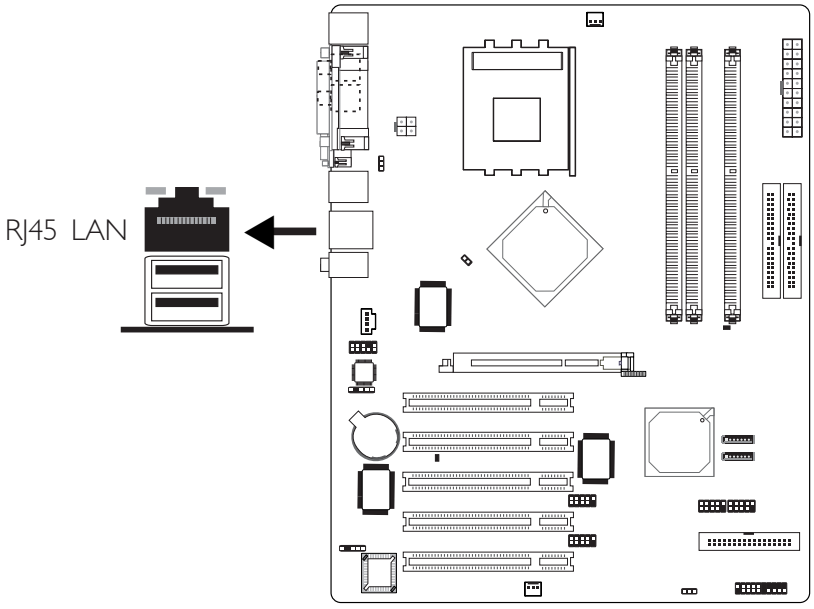
Configure the onboard USB in the Integrated Peripherals submenu ("Onboard Device" section) of the BIOS. Refer to chapter 3 for more information.

## Driver Installation

You may need to install the proper drivers in your operating system to use the USB device. Refer to your operating system's manual or documentation for more information.

If you are using a USB 2.0 device, install the "USB 2.0 Drivers". Refer to chapter 4 for more information.

## 2.5.6 RJ45 Fast-Ethernet Port




The system board is equipped with an onboard RJ45 fast-ethernet LAN port at location CN11 of the system board. It allows the system board to connect to a local area network by means of a network hub.

nF2 U400SG-AGF uses the Marvell 88E1111 Gigabit Phy which supports 10/100/1000Mbps.

nF2 U400S-AL uses a LAN Phy which supports 10/100Mbps.

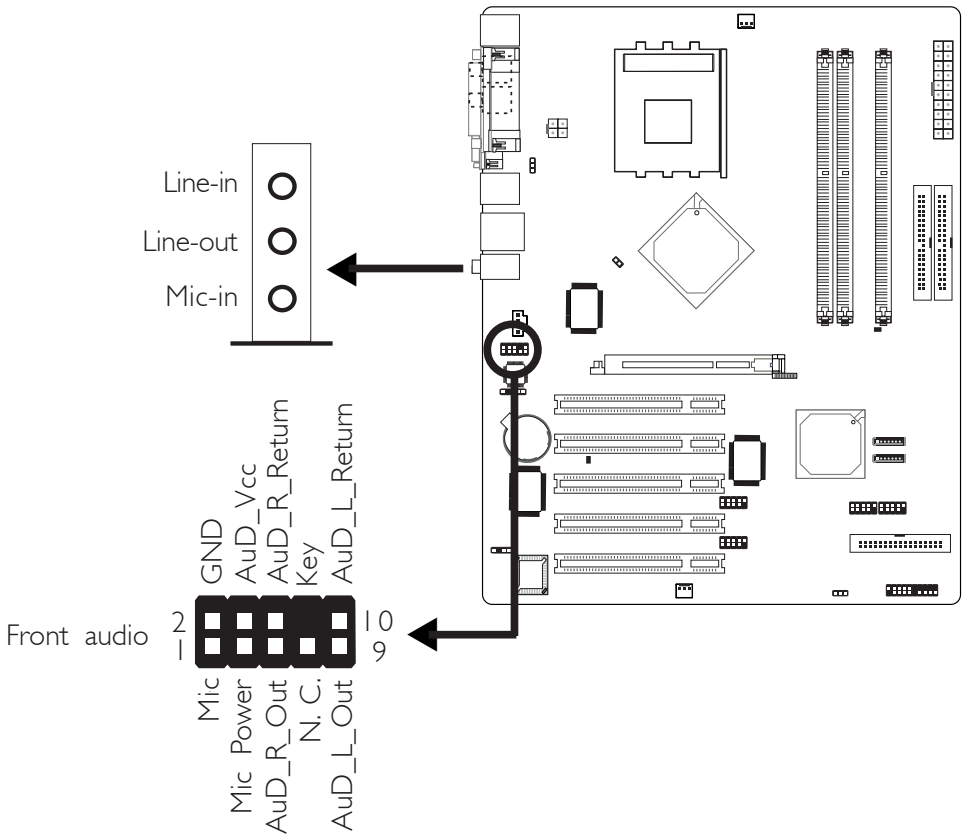
### BIOS Setting

Configure the onboard LAN in the Integrated Peripherals submenu ("Onboard Device" section) of the BIOS. Refer to chapter 3 for more information.

### Driver Installation

Install the "LAN Drivers". Refer to chapter 4 for more information.

## 2.5.7 Audio (Rear Panel Audio and Front Audio)




### Rear Panel Audio (CN10)

**Line-in (Light Blue)**
In a 2-channel or 4-channel mode, this jack is used to connect any audio devices such as Hi-fi set, CD player, tape player, AM/FM radio tuner, synthesizer, etc. In a 6-channel mode, this jack functions as Center/Subwoofer.

**Line-out (Lime)**
In a 2-channel mode, this jack is used to connect a headphone or external speakers. In a 4-channel or 6-channel mode, this jack functions as front right/left speaker out.

**Mic-in (Pink)**
In a 2-channel mode, this jack is used to connect an external microphone. In a 4-channel or 6-channel mode, this jack functions as rear right/left speaker out.

| | 2-channel | 4-channel | 6-channel |
|---|---|---|---|
| Light Blue | Line-in | Line-in | Center/Subwoofer |
| Lime | Line-out | Front R/L | Front R/L |
| Pink | Mic-in | Rear R/L | Rear R/L |

## Front Audio

The front audio connector (J16) allows you to connect to the line-out and mic-in jacks that are at the front panel of your system. Using this connector will disable the rear audio's line-out and mic-in functions.

Remove the jumper caps from pins 5-6 and pins 9-10 of J16 prior to connecting the front audio cable connector. Make sure pin 1 of the cable connector is aligned with pin 1 of J16. If you are not using this connector, make sure to replace the jumper caps back to their original pin locations.

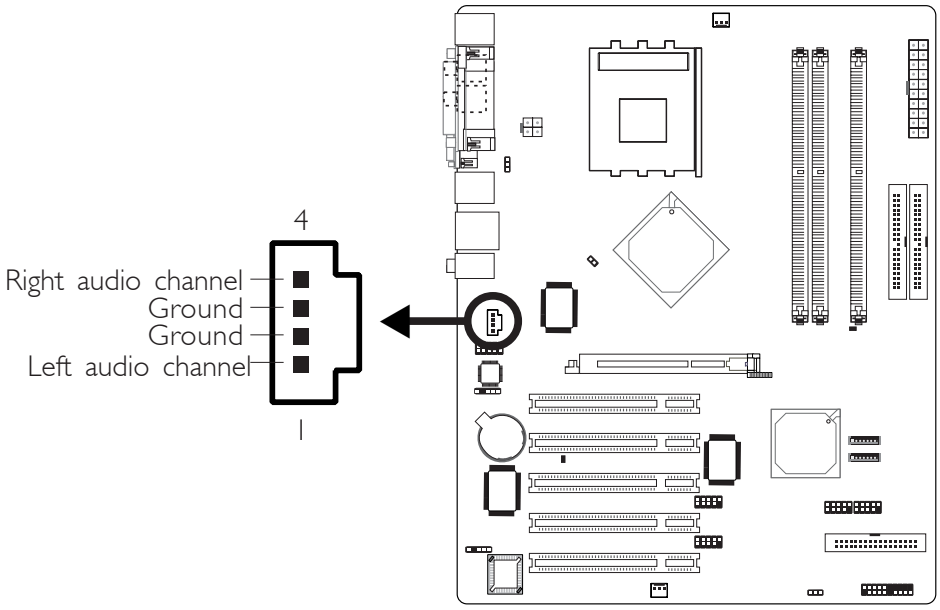
| | |
|---|---|
| Pins 5-6 and 9-10 short (default) | The front audio is disabled. The rear audio is enabled. |
| Pins 5-6 and 9-10 open | The front audio is enabled. The rear audio is disabled. |

## Driver Installation

Install the "Audio Drivers". An audio software application program will at the same time be installed into your system. Refer to chapter 4 for more information.

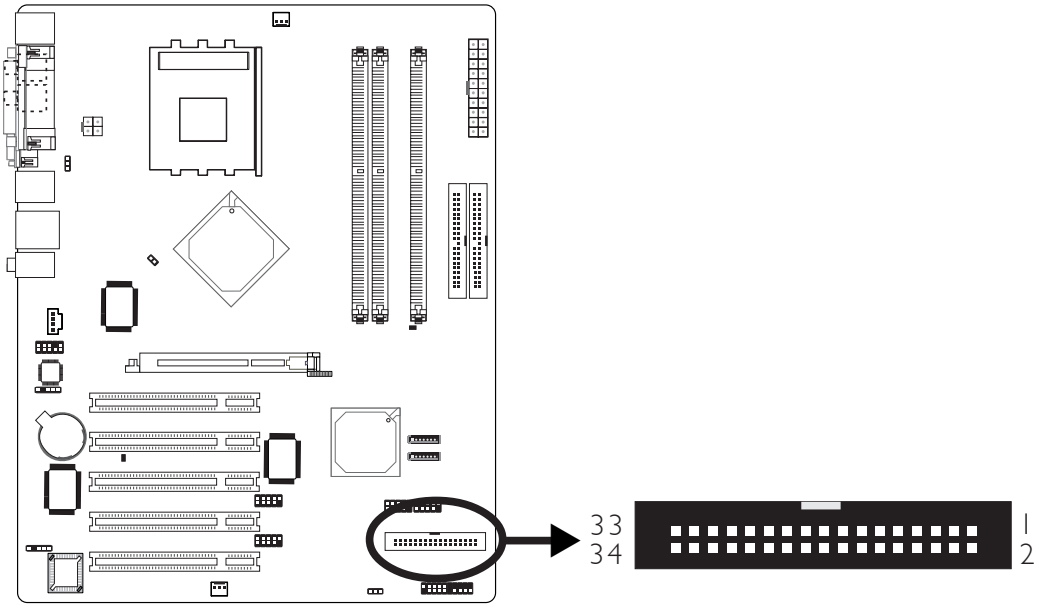
## 2.6 I/O Connectors

### 2.6.1 CD-in Internal Audio Connector




The CD-in (J14) connector is used to receive audio from a CD-ROM drive, TV tuner or MPEG card.

## 2.6.2 Floppy Disk Drive Connector




The system board is equipped with a shrouded floppy disk drive connector for connecting two standard floppy disk drives. To prevent improper floppy cable installation, the shrouded floppy disk header has a keying mechanism. The 34-pin connector on the floppy cable can be placed into the header only if pin 1 of the connector is aligned with pin 1 of the header.

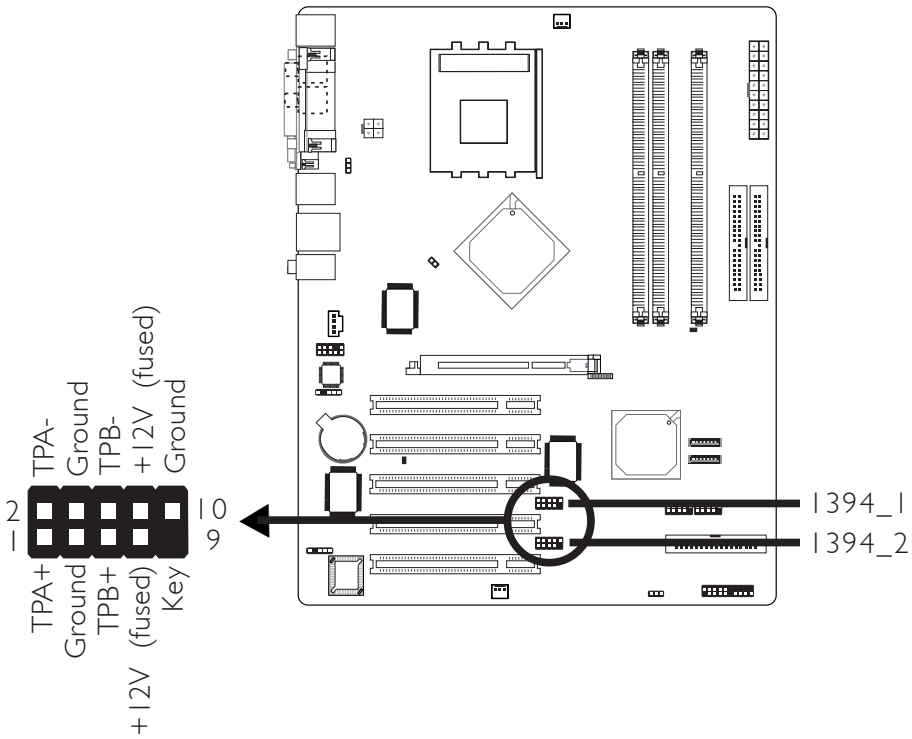
### Connecting the Floppy Disk Drive Cable

Install one end of the floppy disk drive cable into the shrouded floppy disk header (J3) on the system board and the other end-most connector to the drive you want to designate as Drive A. If you are connecting another drive (Drive B), install the middle connector of the cable to the drive. The colored edge of the daisy chained ribbon cable should be aligned with pin 1 of J3.

### BIOS Setting

Enable or disable this function in the Integrated Peripherals submenu ("Onboard Device" section) of the BIOS. Refer to chapter 3 for more information.

## 2.6.3 IEEE 1394 (nF2 U400SG-AGF only)

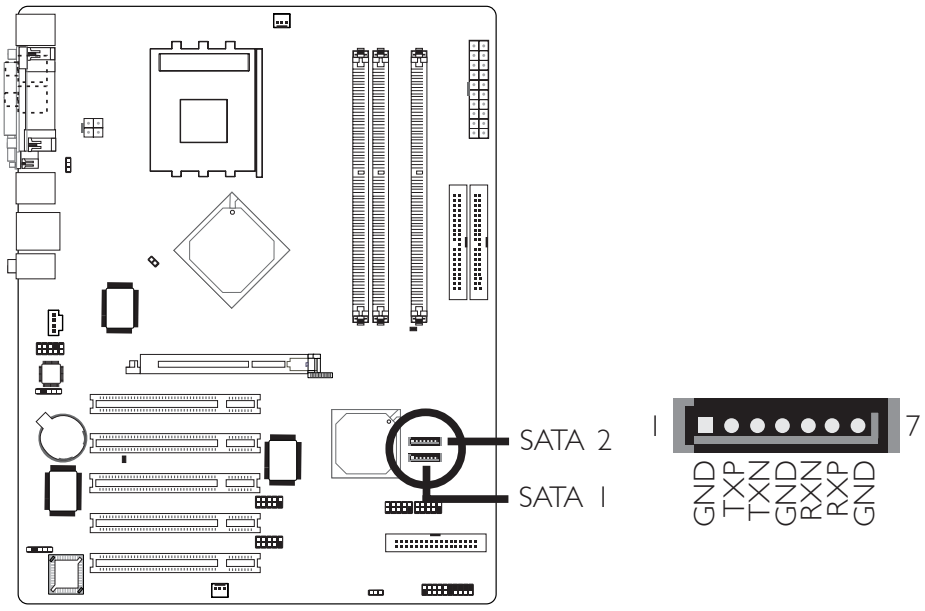



The nF2 U400SG-AGF system board is equipped with two IEEE 1394 connectors at locations J30 (IEEE 1394_1) and J33 (1394_2) for connecting 1394 devices. Your 1394 ports may come mounted on a card-edge bracket. Install the card-edge bracket to the system chassis then insert the connector that is attached to the 1394 port cable to J30 or J33. Make sure pin 1 of the cable connector is aligned with pin 1 of J30 or J33.

### BIOS Setting

Enable or disable the onboard 1394 in the Integrated Peripherals submenu ("Onboard Device" section) of the BIOS. Refer to chapter 3 for more information.

## 2.6.4 Serial ATA Connectors




Connect one end of the Serial ATA cable to J27 (SATA 1) or J28 (SATA 2) and the other end to your Serial ATA device.

### BIOS Setting

Enable or disable the onboard SATA in the Integrated Peripherals submenu of the BIOS. Refer to chapter 3 for more information.

### Configuring RAID on Serial ATA Drives

The system board allows configuring RAID across Serial ATA drives and Parallel ATA drives. It supports RAID 0, RAID 1, 0+1 and JBOD. The following must be set accordingly.

1. Set the "IDE RAID" field to "Enabled". (Integrated Peripherals submenu - "RAID Config" section of the Award BIOS.)

2. Configure the "SATA Primary Master RAID" and "SATA Secondary Master RAID" fields to Enabled. (Integrated Peripherals submenu - "RAID Config" section of the Award BIOS.)

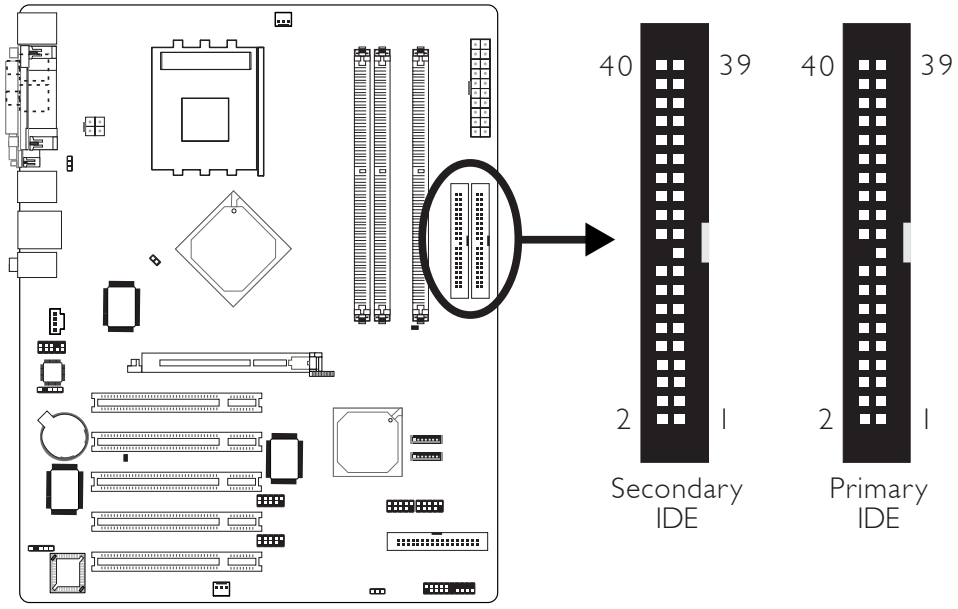
3. Run the NVIDIA RAID BIOS utility by pressing the <F10> key after the system powers-up. The utility is used to configure and manage RAID on both Serial ATA and Parallel ATA drives.

4. Install the NVRAID driver by using the provided "nVRAID Driver" floppy diskette. The driver must be installed if you are in the process of installing Windows® XP or Windows® 2000 on RAID configured Serial ATA drives.

5. Install the NVIDIA Windows nForce Drivers.

For steps 1 to 3, refer to chapter 3 for more information. For steps 4 and 5, refer to chapter 4 for more information.

## 2.6.5 IDE Disk Drive Connector




### Configuring RAID on IDE Drives

The system board allows configuring RAID across Parallel ATA drives and Serial ATA drives. It supports RAID 0, RAID 1, 0+1 and JBOD. For optimal performance, install identical drives of the same model and capacity. The drives' matched performance allows the RAID array to function better as a single drive.

1. Set the "IDE RAID" field to "Enabled". (Integrated Peripherals submenu - "RAID Config" section of the Award BIOS.)

2. Configure the "IDE Channel 0 Master/Slave RAID" to "IDE Channel 1 Master/Slave RAID" fields to Enabled. (Integrated Peripherals submenu - "RAID Config" section of the Award BIOS.)

3. Run the NVIDIA RAID BIOS utility by pressing the <F10> key after the system powers-up. The utility is used to configure and manage RAID on both Serial ATA and Parallel ATA drives.

4. Install the NVIDIA Windows nForce Drivers.

For steps 1 to 3, refer to chapter 3 for more information. For step 4, refer to chapter 4 for more information.

## Connecting the IDE Disk Drive Cable

The system board is equipped with two shrouded PCI IDE headers that will interface four Enhanced IDE (Integrated Drive Electronics) disk drives. To prevent improper IDE cable installation, each shrouded PCI IDE header has a keying mechanism. The 40-pin connector on the IDE cable can be placed into the header only if pin 1 of the connector is aligned with pin 1 of the header.

Each IDE connector supports 2 devices, a Master and a Slave. Use an IDE ribbon cable to connect the drives to the system board. An IDE ribbon cable have 3 connectors on them, one that plugs into an IDE connector on the system board and the other 2 connects to IDE devices. The connector at the end of the cable is for the Master drive and the connector in the middle of the cable is for the Slave drive.

Install one end of the IDE cable into the Primary IDE header (J8) on the system board and the other connectors to the IDE devices. If you are adding a third or fourth IDE device, use another IDE cable and install one end of the cable into the Secondary IDE header (J9) on the system board and the other connectors to the IDE devices.

**Note:**
*Refer to your disk drive user's manual for information about selecting proper drive switch settings.*

## Adding a Second IDE Disk Drive

When using two IDE drives, one must be set as the master and the other as the slave. Follow the instructions provided by the drive manufacturer for setting the jumpers and/or switches on the drives.

The system board supports Enhanced IDE or ATA-2, ATA/33, ATA/66, ATA/100 or ATA/133 hard drives. We recommend that you use hard drives from the same manufacturer. In a few cases, drives from two different manufacturers will not function properly when used together. The problem lies in the hard drives, not the system board.

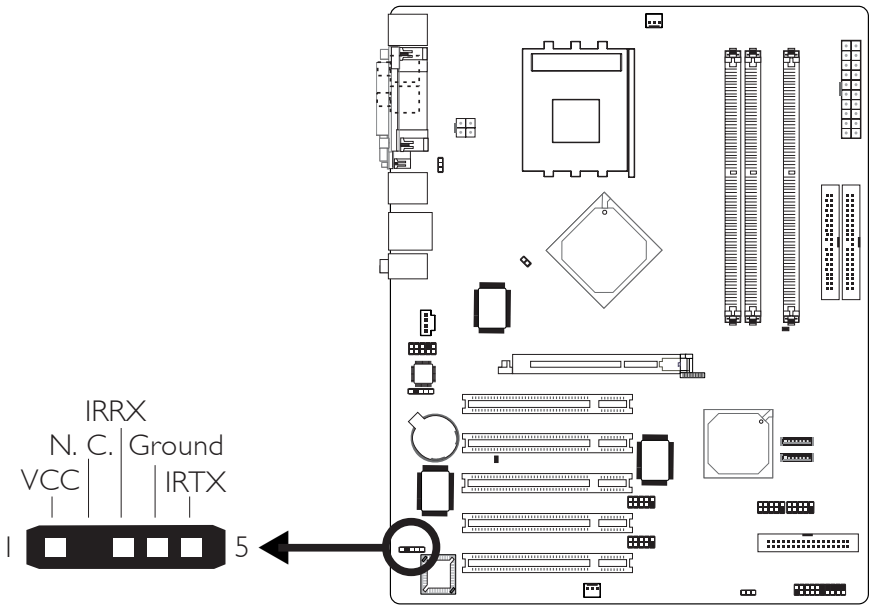
**Important:**

*If you encountered problems while using an ATAPI CD-ROM drive that is set in Master mode, please set the CD-ROM drive to Slave mode. Some ATAPI CD-ROMs may not be recognized and cannot be used if incorrectly set in Master mode.*

## BIOS Setting

Enable or disable the onboard primary or secondary IDE in the Integrated Peripherals submenu of the BIOS. Refer to chapter 3 for more information.

## 2.6.6 IrDA Connector




Connect your IrDA cable to connector J7 on the system board.

**Note:**
*The sequence of the pin functions on some IrDA cable may be reversed from the pin function defined on the system board. Make sure to connect the cable to the IrDA connector according to their pin functions.*

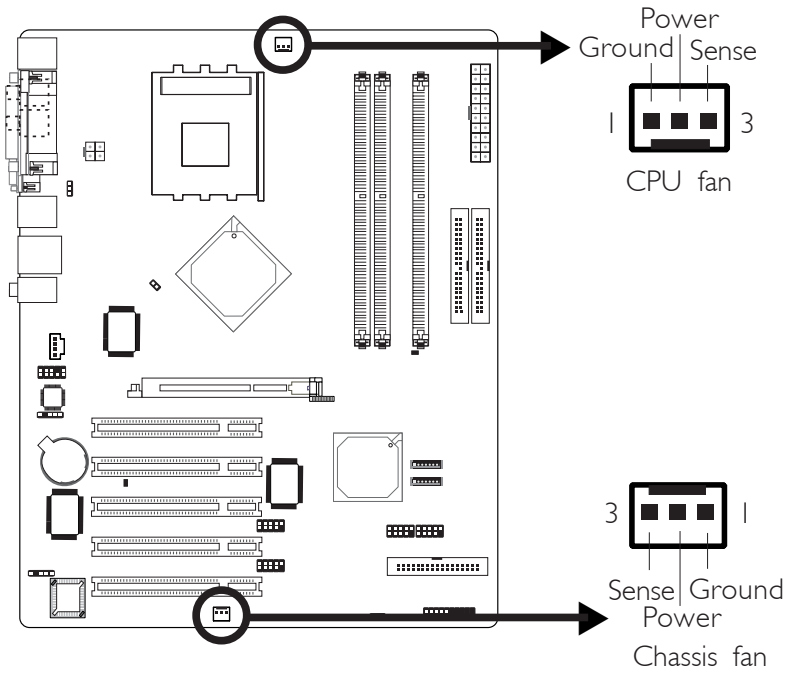
### BIOS Setting

Configure IrDA in the Integrated Peripherals submenu ("Onboard Device" section) of the BIOS. Refer to chapter 3 for more information.

### Driver Installation

You may need to install the proper drivers in your operating system to use the IrDA function. Refer to your operating system's manual or documentation for more information.

## 2.6.7 Cooling Fan Connectors

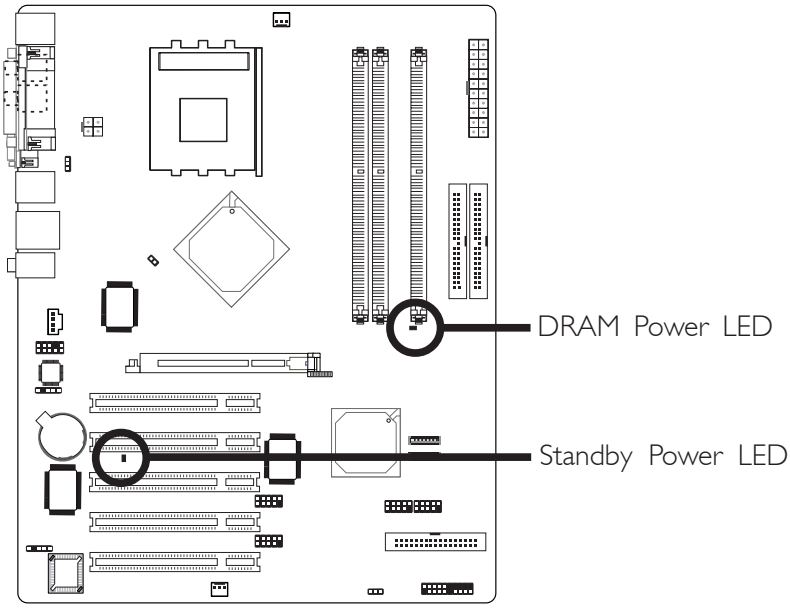



Connect the CPU fan's cable connector to the CPU fan connector (J6) on the system board. The chassis fan connector (J5) is used to connect an additional cooling fan. The cooling fans will provide adequate airflow throughout the chassis to prevent overheating the CPU and system board components.

### BIOS Setting

The "PC Health Status" submenu of the BIOS will display the current speed of the cooling fans. Refer to chapter 3 for more information.

## 2.6.8 DRAM Power LED and Standby Power LED



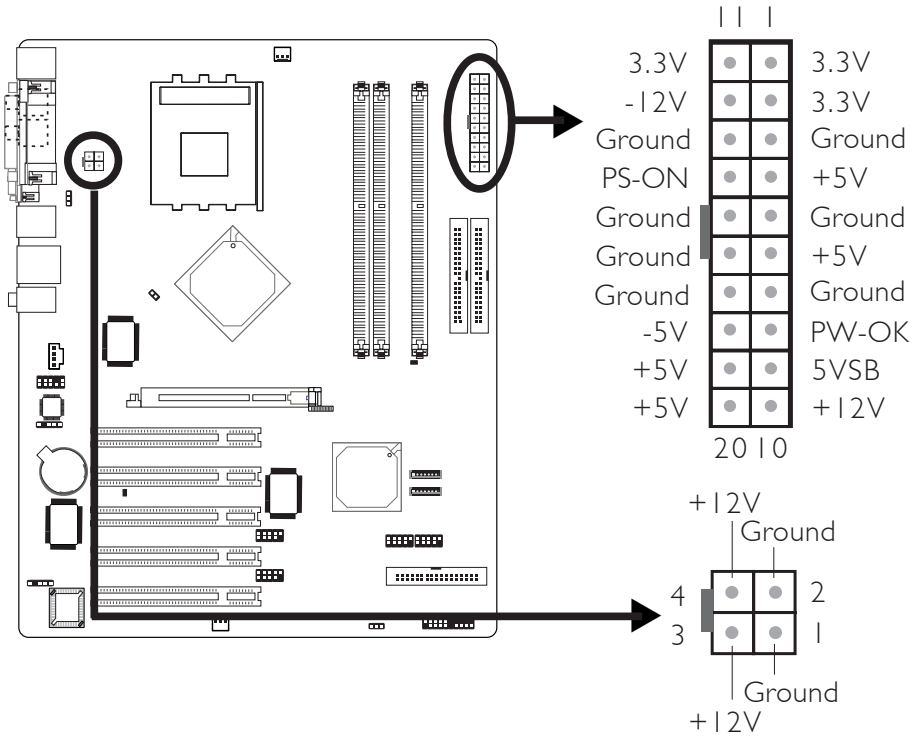

### DRAM Power LED

This LED will light when the system's power is on.

### Standby Power LED

This LED will light when the system is in the standby mode.

## 2.6.9 Power Connectors

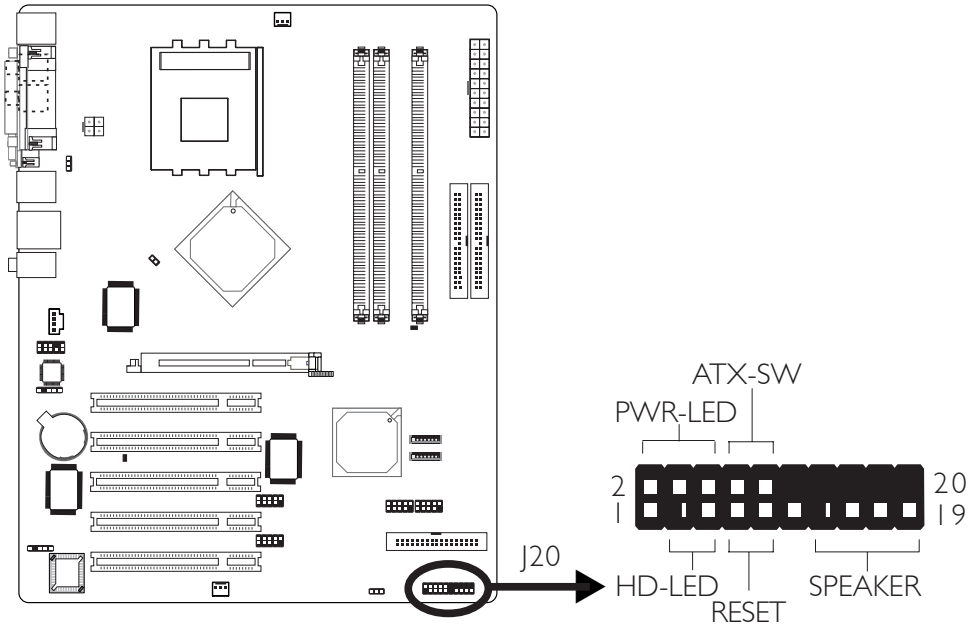



Use a power supply that complies with the ATX12V Power Supply Design Guide Version 1.1. An ATX12V power supply has a standard 20-pin ATX main power connector and a 4-pin +12V power connector that must be inserted onto CN8 and CN9 connectors respectively.

The 4-pin +12V power connector enables the delivery of more +12VDC current to the processor's Voltage Regulator Module (VRM).

The system board requires a minimum of 250 Watt power supply to operate. Your system configuration (amount of memory, add-in cards, peripherals, etc.) may exceed the minimum power requirement. To ensure that adequate power is provided, use a 300 Watt (or greater) power supply.

## 2.6.10 Front Panel Connectors




### HD-LED: Primary/Secondary IDE LED

This LED will light when the hard drive is being accessed.

### RESET: Reset Switch

This switch allows you to reboot without having to power off the system thus prolonging the life of the power supply or system.

### SPEAKER: Speaker Connector

This connects to the speaker installed in the system chassis.

### ATX-SW: ATX Power Switch

Depending on the setting in the BIOS setup, this switch is a "dual function power button" that will allow your system to enter the Soft-Off or Suspend mode. Refer to "Soft-Off By PBTN" in the Power Management Setup (Chapter 3).

## PWR-LED: Power/Standby LED

When the system's power is on, this LED will light. When the system is in the S1 (POS - Power On Suspend) or S3 (STR - Suspend To RAM) state, it will blink every second.

**Note:**

*If a system did not boot-up and the Power/Standby LED did not light after it was powered-on, it may indicate that the CPU or memory module was not installed properly. Please make sure they are properly inserted into their corresponding socket.*

| | Pin | Pin Assignment |
|---|---|---|
| **HD-LED**<br>(Primary/Secondary IDE LED) | 3<br>5 | HDD LED Power<br>HDD |
| **Reserved** | 14<br>16 | N. C.<br>N. C. |
| **ATX-SW**<br>(ATX power switch) | 8<br>10 | PWRBT+<br>PWRBT- |
| **Reserved** | 18<br>20 | N. C.<br>N. C. |
| **RESET**<br>(Reset switch) | 7<br>9 | Ground<br>H/W Reset |
| **SPEAKER**<br>(Speaker connector) | 13<br>15<br>17<br>19 | Speaker Data<br>N. C.<br>Ground<br>Speaker Power |
| **PWR-LED**<br>(Power/Standby LED) | 2<br>4<br>6 | LED Power (+)<br>LED Power (+)<br>LED Power (-) or Standby Signal |

# Chapter 3 - BIOS Setup

## 3.1 Award BIOS Setup Utility

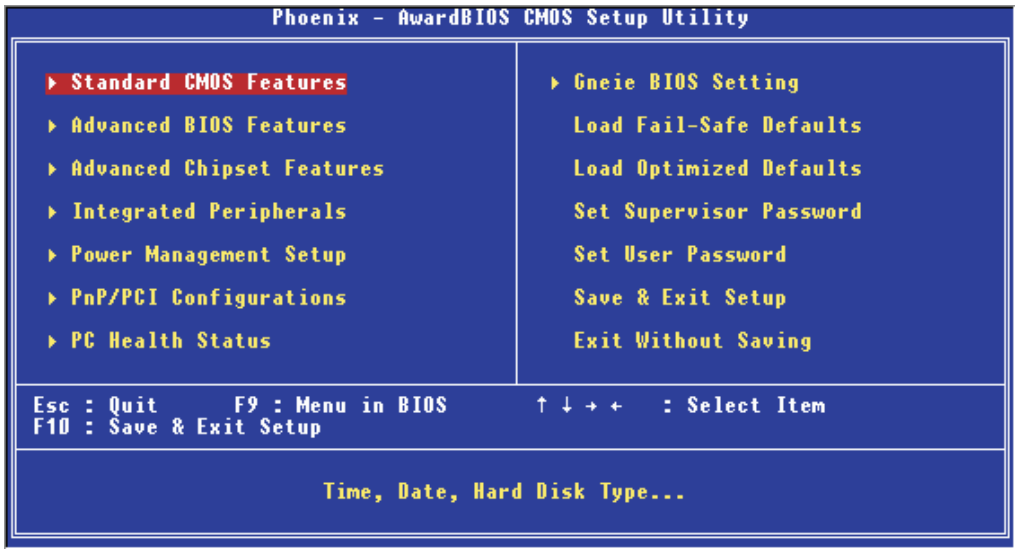
The Basic Input/Output System (BIOS) is a program that takes care of the basic level of communication between the processor and peripherals. In addition, the BIOS also contains codes for various advanced features found in this system board. This chapter explains the Setup Utility for the Award BIOS.

After you power up the system, the BIOS message appears on the screen and the memory count begins. After the memory test, the following message will appear on the screen:

Press DEL to enter setup

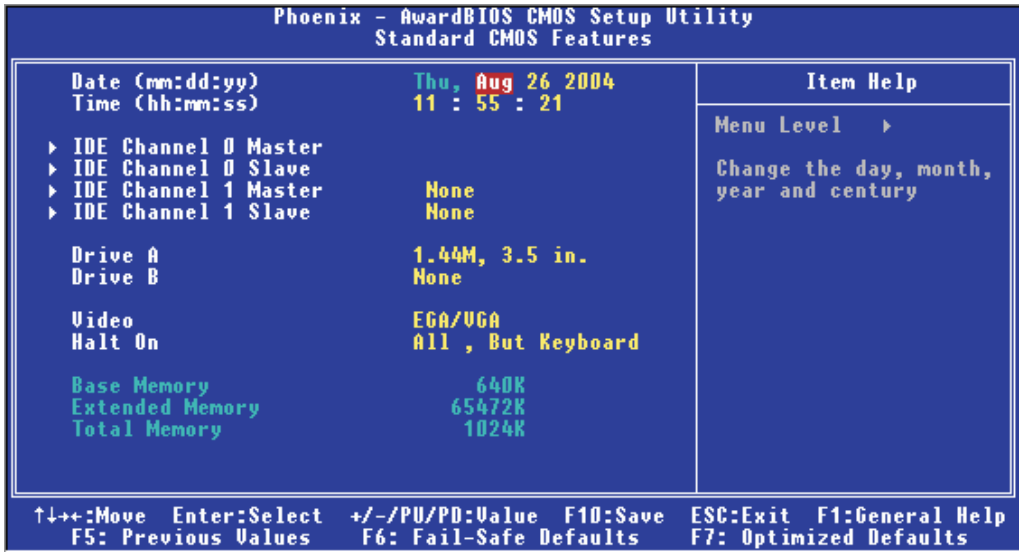
If the message disappears before you respond, restart the system or press the "Reset" button. You may also restart the system by pressing the <Ctrl> <Alt> and <Del> keys simultaneously.

When you press <Del>, the main menu screen will appear.



## 3.1.1 Standard CMOS Features

Use the arrow keys to highlight "Standard CMOS Features" and press <Enter>. A screen similar to the one below will appear.


Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Date (mm:dd:yy) Thu, Aug 26 2004
Time (hh:mm:ss) 11 : 55 : 21
IDE Channel 0 Master
IDE Channel 0 Slave
IDE Channel 1 Master None
IDE Channel 1 Slave None
Drive A 1.44M, 3.5 in.
Drive B None
Video EGA/VGA
Halt On All , But Keyboard
Base Memory 640K
Extended Memory 65472K
Total Memory 1024K
Item Help
Menu Level ▸
Change the day, month, year and century
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

The settings on the screen are for reference only. Your version may not be identical to this one.

### 3.1.1.1 Date

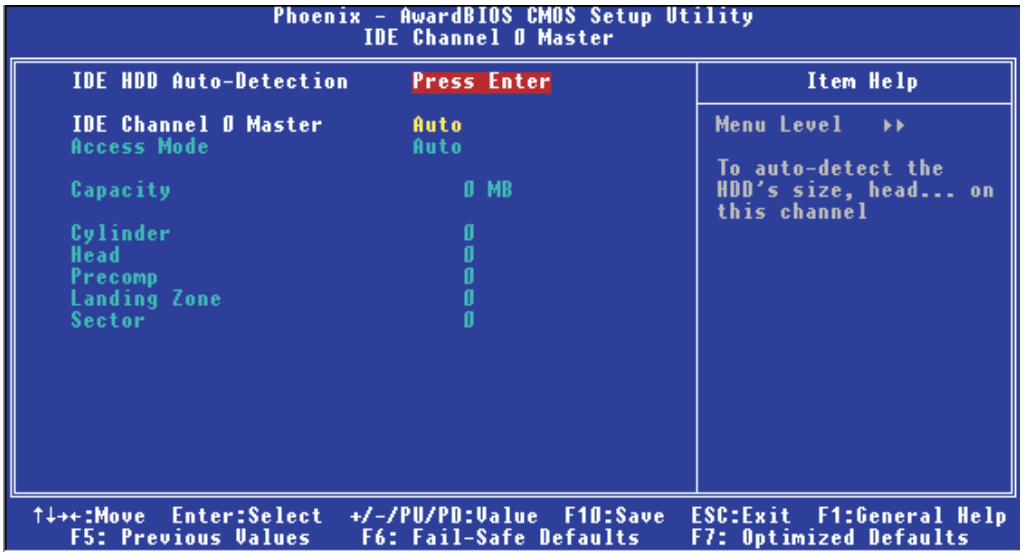
The date format is <day>, <month>, <date>, <year>. Day displays a day, from Sunday to Saturday. Month displays the month, from January to December. Date displays the date, from 1 to 31. Year displays the year, from 1994 to 2079.

### 3.1.1.2 Time

The time format is <hour>, <minute>, <second>. The time is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Hour displays hours from 00 to 23. Minute displays minutes from 00 to 59. Second displays seconds from 00 to 59.

### 3.1.1.3 IDE Channel 0 Master, IDE Channel 0 Slave, IDE Channel 1 Master and IDE Channel 1 Slave

Move the cursor to the "IDE Channel 0 Master", "IDE Channel 0 Slave", "IDE Channel 1 Master" or "IDE Channel 1 Slave" field, then press <Enter>. The following screen will appear.




The settings on the screen are for reference only. Your version may not be identical to this one.

#### IDE HDD Auto-Detection

Detects the parameters of the drive. The parameters will automatically be shown on the screen.

#### IDE Channel 0 Master/Slave and IDE Channel 1 Master/Slave

The drive type information should be included in the documentation from your hard disk vendor. If you select "Auto", the BIOS will auto-detect the HDD & CD-ROM drive at the POST stage and show the IDE for the HDD & CD-ROM drive. If a hard disk has not been installed, select "None".

#### Access Mode

For hard drives larger than 528MB, you would typically select the LBA type. Certain operating systems require that you select CHS or Large. Please check your operating system's manual or Help desk on which one to select.

### Capacity

Displays the approximate capacity of the disk drive. Usually the size is slightly greater than the size of a formatted disk given by a disk checking program.

### Cylinder

This field displays the number of cylinders.

### Head

This field displays the number of read/write heads.

### Precomp

This field displays the number of cylinders at which to change the write timing.

### Landing Zone

This field displays the number of cylinders specified as the landing zone for the read/write heads.

### Sector

This field displays the number sectors per track.

## 3.1.1.4 Drive A and Drive B

These fields identify the types of floppy disk drives installed.

| | |
|---|---|
| *None* | No floppy drive is installed |
| *360K, 5.25 in.* | 5-1/4 in. standard drive; 360KB capacity |
| *1.2M, 5.25 in.* | 5-1/4 in. AT-type high-density drive; 1.2MB capacity |
| *720K, 3.5 in.* | 3-1/2 in. double-sided drive; 720KB capacity |
| *1.44M, 3.5 in.* | 3-1/2 in. double-sided drive; 1.44MB capacity |
| *2.88M, 3.5 in.* | 3-1/2 in. double-sided drive; 2.88MB capacity |

### 3.1.1.5 Video

This field selects the type of video adapter used for the primary system monitor. Although secondary monitors are supported, you do not have to select the type. The default setting is EGA/VGA.

*EGA/VGA* Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA, SVGA and PGA monitor adapters.

*CGA 40* Color Graphics Adapter. Power up in 40-column mode.

*CGA 80* Color Graphics Adapter. Power up in 80-column mode.

*Mono* Monochrome adapter. Includes high resolution monochrome adapters.

### 3.1.1.6 Halt On

This field determines whether the system will stop if an error is detected during power up. The default setting is All Errors.

*No Errors* The system boot will not stop for any errors detected.

*All Errors* The system boot will stop whenever the BIOS detects a non-fatal error.

*All, But Keyboard* The system boot will not stop for a keyboard error; it will stop for all other errors.

*All, But Diskette* The system boot will not stop for a disk error; it will stop for all other errors.

*All, But Disk/Key* The system boot will not stop for a disk or keyboard error; it will stop for all other errors.

### 3.1.1.7 Base Memory

Displays the amount of base (or conventional) memory installed in the system. The value of the base memory is typically 512K for systems with 512K memory installed on the motherboard or 640K for systems with 640K or more memory installed on the motherboard.

### 3.1.1.8 Extended Memory

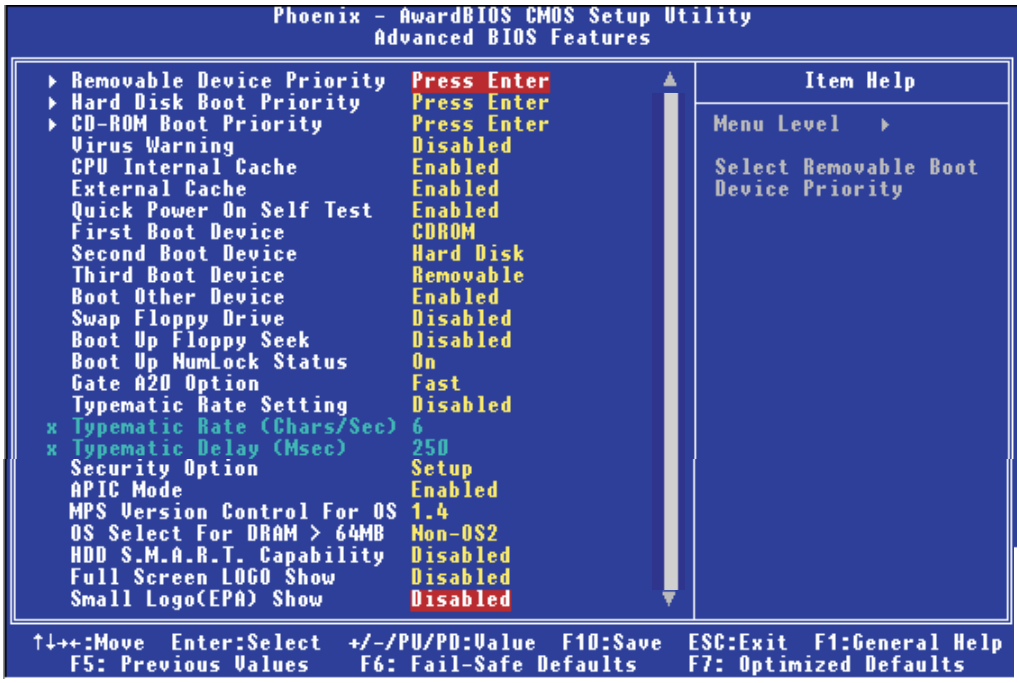
Displays the amount of extended memory detected during boot-up.

### 3.1.1.9 Total Memory

Displays the total memory available in the system.

## 3.1.2 Advanced BIOS Features

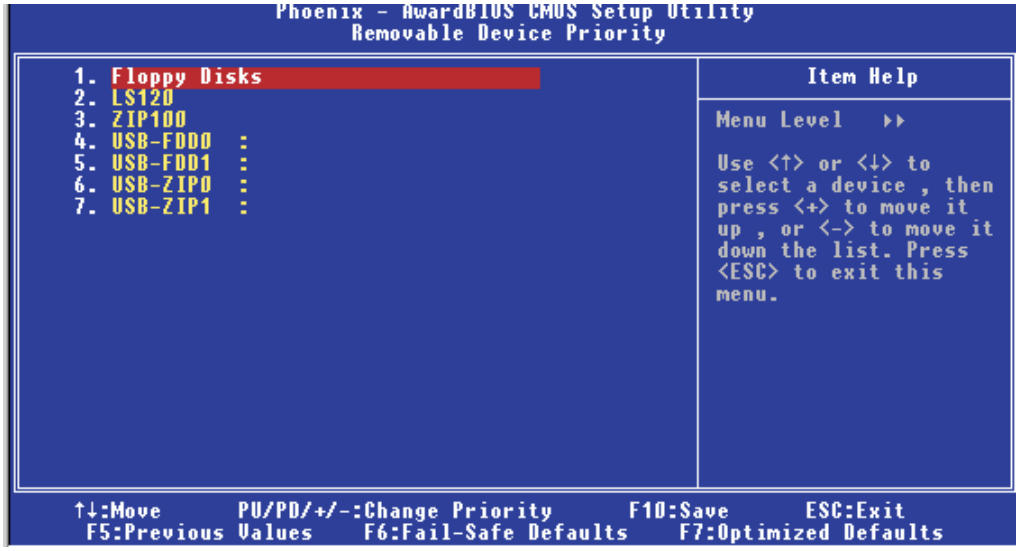
The Advanced BIOS Features allows you to configure your system for basic operation. Some entries are defaults required by the system board, while others, if enabled, will improve the performance of your system or let you set some features according to your preference.


Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features
Removable Device Priority Press Enter
Hard Disk Boot Priority Press Enter
CD-ROM Boot Priority Press Enter
Virus Warning Disabled
CPU Internal Cache Enabled
External Cache Enabled
Quick Power On Self Test Enabled
First Boot Device CDROM
Second Boot Device Hard Disk
Third Boot Device Removable
Boot Other Device Enabled
Swap Floppy Drive Disabled
Boot Up Floppy Seek Disabled
Boot Up NumLock Status On
Gate A20 Option Fast
Typematic Rate Setting Disabled
x Typematic Rate (Chars/Sec) 6
x Typematic Delay (Msec) 250
Security Option Setup
APIC Mode Enabled
MPS Version Control For OS 1.4
OS Select For DRAM > 64MB Non-OS2
HDD S.M.A.R.T. Capability Disabled
Full Screen LOGO Show Disabled
Small Logo(EPA) Show Disabled
Item Help
Menu Level
Select Removable Boot Device Priority
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

The screen above list all the fields available in the Advanced BIOS Features submenu, for ease of reference in this manual. In the actual CMOS setup, you have to use the scroll bar to view the fields. The settings on the screen are for reference only. Your version may not be identical to this one.

### 3.1.2.1 Removable Device Priority

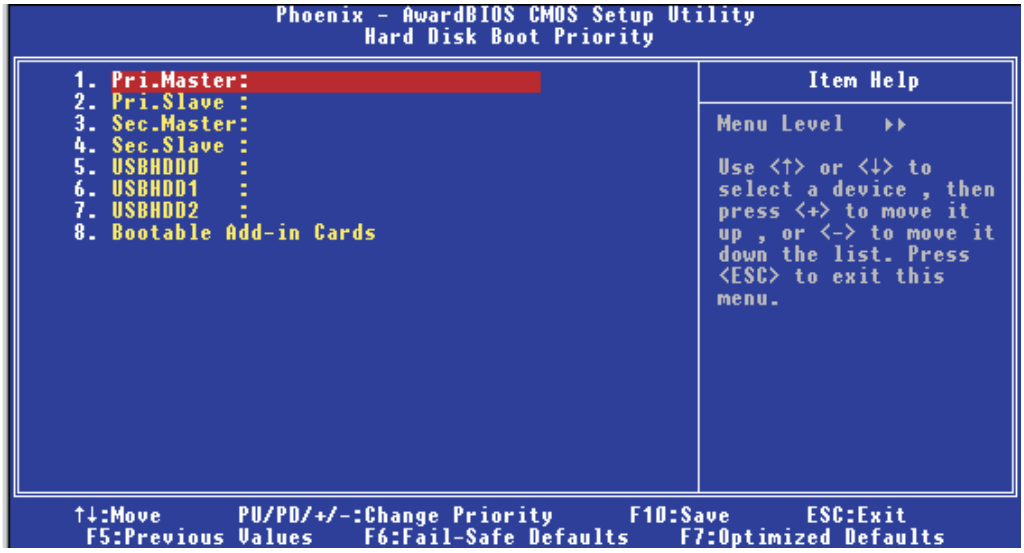
This field is used to select the boot sequence of the removable devices. Move the cursor to this field then press <Enter>. Use the Up or Down arrow keys to select a device then press <+> to move it up or <-> to move it down the list.


Phoenix - AwardBIOS CMOS Setup Utility
Removable Device Priority
1. Floppy Disks
2. LS120
3. ZIP100
4. USB-FDD0 :
5. USB-FDD1 :
6. USB-ZIP0 :
7. USB-ZIP1 :
Item Help
Menu Level ▸▸
Use <↑> or <↓> to select a device , then press <+> to move it up , or <-> to move it down the list. Press <ESC> to exit this menu.
↑↓:Move PU/PD/+/-:Change Priority F10:Save ESC:Exit
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

The settings on the screen are for reference only. Your version may not be identical to this one.

### 3.1.2.2 Hard Disk Boot Priority

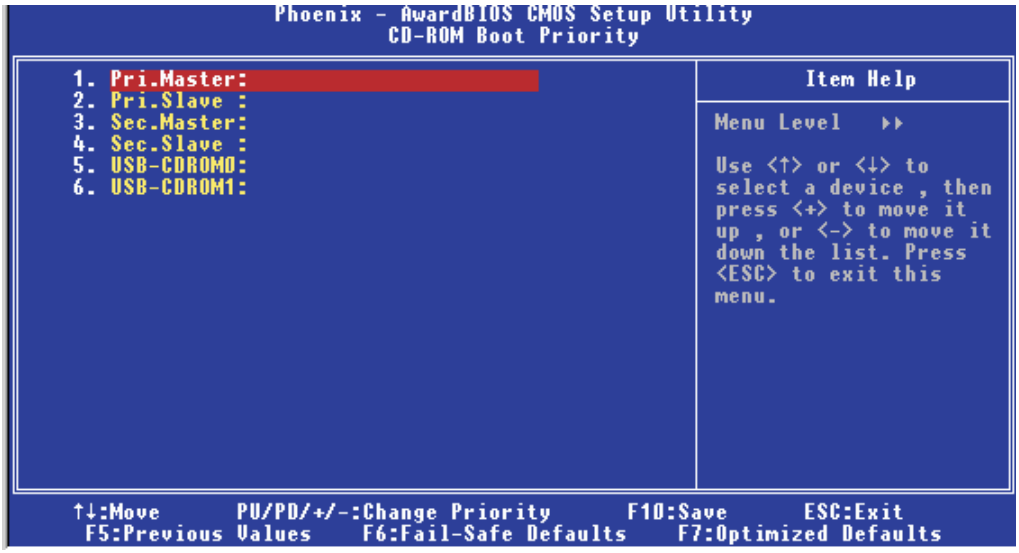
This field is used to select the boot sequence of the hard drives. Move the cursor to this field then press <Enter>. Use the Up or Down arrow keys to select a device then press <+> to move it up or <-> to move it down the list.


Phoenix - AwardBIOS CMOS Setup Utility
Hard Disk Boot Priority
1. Pri.Master:
2. Pri.Slave :
3. Sec.Master:
4. Sec.Slave :
5. USBHDD0 :
6. USBHDD1 :
7. USBHDD2 :
8. Bootable Add-in Cards
Item Help
Menu Level ▸▸
Use <↑> or <↓> to select a device , then press <+> to move it up , or <-> to move it down the list. Press <ESC> to exit this menu.
↑↓:Move PU/PD/+/-:Change Priority F10:Save ESC:Exit
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

The settings on the screen are for reference only. Your version may not be identical to this one.

### 3.1.2.3 CD-ROM Boot Priority

This field is used to select the boot sequence of the CD-ROM drives. Move the cursor to this field then press <Enter>. Use the Up or Down arrow keys to select a device then press <+> to move it up or <-> to move it down the list.


Phoenix - AwardBIOS CMOS Setup Utility
CD-ROM Boot Priority
1. Pri.Master:
2. Pri.Slave :
3. Sec.Master:
4. Sec.Slave :
5. USB-CDROM0:
6. USB-CDROM1:
Item Help
Menu Level ▸▸
Use <↑> or <↓> to select a device , then press <+> to move it up , or <-> to move it down the list. Press <ESC> to exit this menu.
↑↓:Move PU/PD/+/-:Change Priority F10:Save ESC:Exit
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

The settings on the screen are for reference only. Your version may not be identical to this one.

### 3.1.2.4 Virus Warning

This field protects the boot sector and partition table of your hard disk drive. When this field is enabled, the Award BIOS will monitor the boot sector and partition table of the hard disk drive. If an attempt is made to write to the boot sector or partition table of the hard disk drive, the BIOS will halt the system and an error message will appear.

After seeing the error message, if necessary, you will be able to run an anti-virus program to locate and remove the problem before any damage is done.

Many disk diagnostic programs which attempt to access the boot sector table will cause the warning message to appear. If you are running such a program, we recommend that you first disable this field. Also, disable this field if you are installing or running certain operating systems like Windows® 95/98/2000/ME/XP or the operating system may not install nor work.

### 3.1.2.5 CPU Internal Cache and External Cache

These fields speed up the memory access. The default is Enabled, which provides better performance by enabling cache.

### 3.1.2.6 Quick Power On Self Test

This field speeds up Power On Self Test (POST) whenever the system is powered on. The BIOS will shorten or skip some check items during POST. To attain the shortest POST time, select "Enabled".

### 3.1.2.7 First Boot Device, Second Boot Device, Third Boot Device and Boot Other Device

Select the drive to boot first, second and third in the "First Boot Device" "Second Boot Device" and "Third Boot Device" fields respectively. The BIOS will boot the operating system according to the sequence of the drive selected. Set "Boot Other Device" to Enabled if you wish to boot from another device.

### 3.1.2.8 Swap Floppy Drive

When this field is enabled and the system is booting from the floppy drive, the system will boot from drive B instead of drive A. When this field is disabled and the system is booting from the floppy drive, the system will boot from drive A. You must have two floppy drives to use this function.

### 3.1.2.9 Boot Up Floppy Seek

When enabled, the BIOS will check whether the floppy disk drive installed is 40 or 80 tracks. Note that the BIOS cannot distinguish between 720K, 1.2M, 1.44M and 2.88M drive types as they are all 80 tracks. When disabled, the BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360KB.

### 3.1.2.10 Boot Up NumLock Status

This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on wherein the function of the numeric keypad is the number keys. When set to Off, the function of the numeric keypad is the arrow keys.

### 3.1.2.11 Gate A20 Option

This field allows you to select how gate A20 is handled. Gate A20 is a device used to address memory above 1 Mbyte. Initially, gate A20 was handled via the keyboard controller. Today, while keyboards still provide this support, it is more common, and much faster, for the system chipset to provide support for gate A20. A20 refers to the first 64KB of extended memory.

*Fast* The chipset controls Gate A20.
*Normal* A pin in the keyboard controller controls Gate A20.

### 3.1.2.12 Typematic Rate Setting

*Disabled* Continually holding down a key on your keyboard will cause the BIOS to report that the key is down.
*Enabled* The BIOS will not only report that the key is down, but will first wait for a moment, and, if the key is still down, it will begin to report that the key has been depressed repeatedly. For example, you would use such a feature to accelerate cursor movements with the arrow keys. You can then select the typematic rate and typematic delay in the "Typematic Rate (Chars/Sec)" and "Typematic Delay (Msec)" fields below.

### 3.1.2.13 Typematic Rate (Chars/Sec)

This field allows you to select the rate at which the keys are accelerated.

### 3.1.2.14 Typematic Delay (Msec)

This field allows you to select the delay between when the key was first depressed and when the acceleration begins.

### 3.1.2.15 Security Option

This field determines when the system will prompt for the password - everytime the system boots or only when you enter the BIOS setup. Set the password in the Set Supervisor/User Password submenu.

*System* The system will not boot and access to Setup will be denied unless the correct password is entered at the prompt.

*Setup* The system will boot, but access to Setup will be denied unless the correct password is entered at the prompt.

### 3.1.2.16 APIC Mode

Leave this field in its default setting.

### 3.1.2.17 MPS Version Control for OS

This field is used to select the MPS version that the system board is using.

### 3.1.2.18 OS Select for DRAM > 64MB

Select the "OS2" option only if the system that is running an OS/2 operating system has greater than 64MB RAM.

### 3.1.2.19 HDD S.M.A.R.T. Capability

The system board supports SMART (Self-Monitoring, Analysis and Reporting Technology) hard drives. SMART is a reliability prediction technology for ATA/IDE and SCSI drives. The drive will provide sufficient notice to the system or user to backup data prior to the drive's failure. The default is Disabled. If you are using hard drives that support S.M.A.R.T., set this field to Enabled. SMART is supported in ATA/33 or later hard drives.

### 3.1.2.20 Full Screen Logo Show

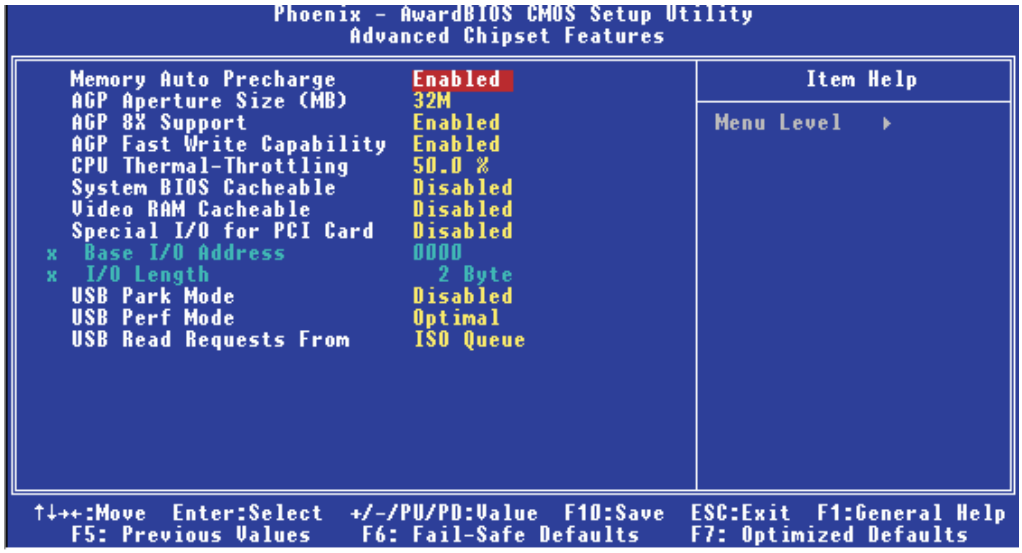
This field is applicable only if you want a particular logo to appear during system boot-up.

*Enabled* The logo will appear in full screen during system boot-up.
*Disabled* The logo will not appear during system boot-up.

### 3.1.2.21 Small Logo(EPA) Show

*Enabled* The EPA logo will appear during system boot-up.
*Disabled* The EPA logo will not appear during system boot-up.

## 3.1.3 Advanced Chipset Features


Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features
Memory Auto Precharge Enabled
AGP Aperture Size (MB) 32M
AGP 8X Support Enabled
AGP Fast Write Capability Enabled
CPU Thermal-Throttling 50.0 %
System BIOS Cacheable Disabled
Video RAM Cacheable Disabled
Special I/O for PCI Card Disabled
x Base I/O Address 0000
x I/O Length 2 Byte
USB Park Mode Disabled
USB Perf Mode Optimal
USB Read Requests From ISO Queue
Item Help
Menu Level ▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

The settings on the screen are for reference only. Your version may not be identical to this one.

This section gives you functions to configure the system based on the specific features of the chipset. The chipset manages bus speeds and access to system memory resources. **These items should not be altered unless necessary.** The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered some incompatibility or that data was being lost while using your system.

### 3.1.3.1 Memory Auto Precharge

The options are Enabled and Disabled.

### 3.1.3.2 AGP Aperture Size (MB)

This field is used to select the size of the system RAM that can be allocated to the AGP for graphics purposes. Aperture refers to a portion of the PCI memory address range that is dedicated for the graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

### 3.1.3.3 AGP 8X Support

If you are using an AGP card that supports AGP 8x with up to 2.13GB/sec. bandwidth, set this field to Enabled.

### 3.1.3.4 AGP Fast Write Capability

This field is used to enable or disable the AGP Fast Write function. AGP Fast Write allows the CPU to send data directly to the graphics controller - skipping the system memory. This improves the speed accordingly.

### 3.1.3.5 CPU Thermal-Throttling

Thermal throttling regulates the thermal environment by alternating between running the processor at full speed and placing the processor in a sleep state whenever the upper limits of the thermal envelop are reached.

### 3.1.3.6 System BIOS Cacheable

When this field is enabled, accesses to the system BIOS ROM addressed at F0000H-FFFFFH are cached, provided that the cache controller is enabled. The larger the range of the Cache RAM, the higher the efficiency of the system.

### 3.1.3.7 Video RAM Cacheable

When enabled, it allows the video RAM to be cacheable thus providing better video performance. If your graphics card does not support this function, set this field to Disabled.

### 3.1.3.8 Special I/O for PCI Card

Set this field to Enabled to configure the "Base I/O Address" and "I/O Length" fields.

### 3.1.3.9 USB Park Mode

The options are Enabled and Disabled.

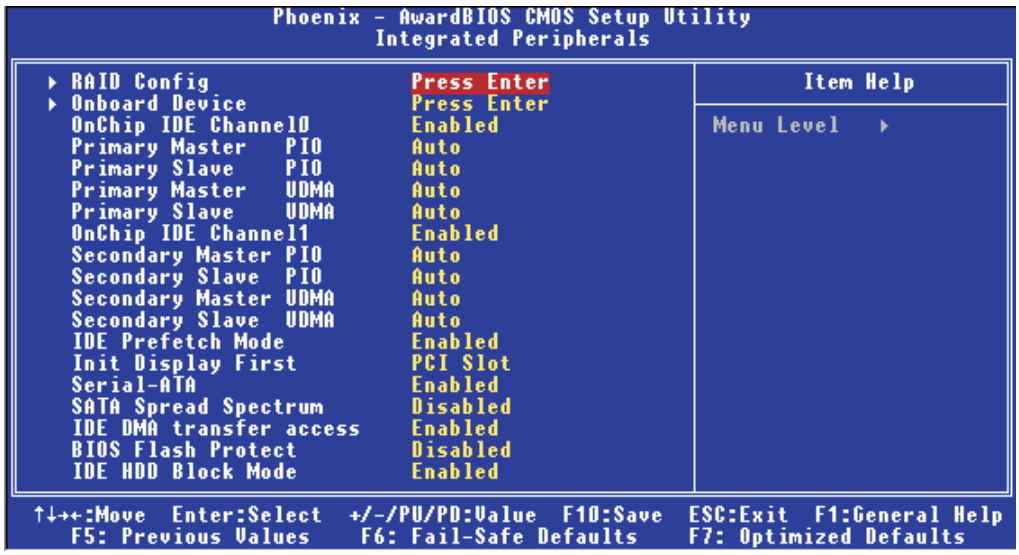
### 3.1.3.10 USB Perf Mode

The options are Optimal, High, Compatible and Moderate.

### 3.1.3.11 USB Read Requests From

The options are ISO Queue and non-ISO Queue.

## 3.1.4 Integrated Peripherals


Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals
RAID Config Press Enter
Onboard Device Press Enter
OnChip IDE Channel0 Enabled
Primary Master PIO Auto
Primary Slave PIO Auto
Primary Master UDMA Auto
Primary Slave UDMA Auto
OnChip IDE Channel1 Enabled
Secondary Master PIO Auto
Secondary Slave PIO Auto
Secondary Master UDMA Auto
Secondary Slave UDMA Auto
IDE Prefetch Mode Enabled
Init Display First PCI Slot
Serial-ATA Enabled
SATA Spread Spectrum Disabled
IDE DMA transfer access Enabled
BIOS Flash Protect Disabled
IDE HDD Block Mode Enabled
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

The settings on the screen are for reference only. Your version may not be identical to this one.

### 3.1.4.1 RAID Config

#### IDE RAID

Set this field to Enabled to allow configuring RAID on Parallel ATA drives and Serial ATA drives.

#### IDE Channel 0 Master RAID and IDE Channel 0 Slave RAID

Set this field to Enabled to allow configuring RAID on the IDE Channel 0's master and slave channels.

#### IDE Channel 1 Master RAID and IDE Channel 1 Slave RAID

Set this field to Enabled to allow configuring RAID on the IDE Channel 1's master and slave channels.

#### SATA Primary Master RAID and SATA Secondary Master RAID

Set this field to Enabled to allow configuring RAID on Serial ATA drives.

### 3.1.4.2 Onboard Device

Phoenix - AwardBIOS CMOS Setup Utility
Onboard Device
OnChip USB V1.1+V2.0
USB KB/Storeage Support Disabled
USB Mouse Support Disabled
AC97 Audio Auto
MAC Lan(nVIDIA) Auto
MAC Media Interface RGMII
Machine MAC(NV) Address Disabled
x MAC(NV) Address Input Press Enter
OnChip 1394 Auto
POWER ON Function BUTTON ONLY
KB Power ON Password Enter
Hot Key Power ON Ctrl-F1
Onboard FDC Controller Enabled
Onboard Serial Port 1 3F8/IRQ4
UART Mode Select Normal
RxD , TxD Active Hi,Lo
IR Transmission Delay Enabled
UR2 Duplex Mode Half
Use IR Pins IR-Rx2Tx2
Onboard Parallel Port 378/IRQ7
Parallel Port Mode SPP
EPP Mode Select EPP1.7
ECP Mode Use DMA 3
Item Help
Menu Level ▸▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

The screen above list all the fields available in the Onboard Device submenu, for ease of reference in this manual. In the actual CMOS setup, you have to use the scroll bar to view the fields. The settings on the screen are for reference only. Your version may not be identical to this one.

#### OnChip USB

This field is used to enable or disable USB 1.1 and/or USB 2.0.

#### USB KB/Storage Support

If you are using a USB keyboard or USB storage devices, set this field to Enabled.

#### USB Mouse Support

This field is used to enable or disable the USB mouse.

#### AC97 Audio

*Auto* Select this option when using the onboard audio CODEC.

*Disabled* Select this option when using a PCI sound card.

### MAC LAN (nVIDIA)

| | |
|---|---|
| *Auto* | Select this option when using the onboard LAN. |
| *Disabled* | Select this option to disable the onboard LAN. |

### MAC Media Interface

The options are MII, RGMII and Pin Strap.

### Machine MAC(NV) Address

Enable this field to enter the MAC(NV) Address in the field below.

### MAC(NV) Address Input

Move the cursor to this field and press <Enter> to fill in the MAC(NV) address.

### OnChip 1394 (nF2 U400SG-AGF only)

This field is used to enable or disable the onboard 1394.

### Power On Function

This field allows you to use the keyboard or PS/2 mouse to power-on the system.

| | |
|---|---|
| *Button only* | Default setting. Uses the power button to power on the system. |
| *Password* | When this option is selected, set the password you would like to use to power-on the system in the "KB Power On Password" field. |
| *Hot Key* | When this option is selected, select the function key you would like to use to power-on the system in the "Hot Key Power On" field. |
| *Mouse Left* | When this option is selected, double-click the left button of the mouse to power-on the system. |
| *Mouse Right* | When this option is selected, double-click the right button of the mouse to power-on the system. |
| *Any Key* | Press any key to power-on the system. |
| *Keyboard 98* | When this option is selected, press the "wake up" key of the Windows® 98 compatible keyboard to power-on the system. |

### KB Power On Password

Move the cursor to this field and press <Enter>. Enter your password. You can enter up to 5 characters. Type in exactly the same password to confirm, then press <Enter>.

The power button will not function once a keyboard password has been set in this field. You must type the correct password to power-on the system. If you forgot the password, power-off the system and remove the battery. Wait for a few seconds and install it back before powering-on the system.

### Hot Key Power On

This field is used to select a function key that you would like to use to power-on the system.

### Onboard FDC Controller

| | |
|---|---|
| *Enabled* | Enables the onboard floppy disk controller. |
| *Disabled* | Disables the onboard floppy disk controller. |

### Onboard Serial Port 1

| | |
|---|---|
| *Auto* | The system will automatically select an I/O address for the onboard serial port. |
| *3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3* | Allows you to manually select an I/O address for the onboard serial port. |
| *Disabled* | Disables the onboard serial port. |

### UART Mode Select

This field is used to select the type of IrDA standard supported by your IrDA device. For better transmission of data, your IrDA peripheral device must be within a 30° angle and within a distance of 1 meter.

### RxD, TxD Active

The options are Hi, Lo; Lo, Hi; Lo, Lo; and Hi, Hi.

### IR Transmission Delay

If this field is Enabled, transmission of data will be slower. This is recommended when you encounter transmission problem with your device. The options are: Enabled and Disabled.

### UR2 Duplex Mode

*Half* Data is completely transmitted before receiving data.
*Full* Transmits and receives data simultaneously.

### Use IR Pins

The options are IR-Rx2Tx2 and RxD2TxD2.

### Onboard Parallel Port

*378/IRQ7, 3BC/IRQ7, 278/IRQ5* Selects the I/O address and IRQ for the onboard parallel port.
*Disabled* Disables the onboard parallel port.

### Parallel Port Mode

The options are SPP, EPP, ECP and ECP+EPP. These apply to a standard specification and will depend on the type and speed of your device. Refer to your peripheral's manual for the best option.

**SPP**
Allows normal speed operation but in one direction only.

**ECP (Extended Capabilities Port)**
Allows parallel port to operate in bidirectional mode and at a speed faster than the normal mode's data transfer rate.

**EPP (Enhanced Parallel Port)**
Allows bidirectional parallel port operation at maximum speed.

### EPP Mode Select

This field is used to select the EPP mode.

### ECP Mode Use DMA

This is used to select the DMA channel of the parallel port.

### 3.1.4.3 OnChip IDE Channel 0 and OnChip IDE Channel 1

These fields allow you to enable or disable the primary and secondary IDE controller. The default is Enabled. Select Disabled if you want to add a different hard drive controller.

### 3.1.4.4 Primary Master/Slave PIO and Secondary Master/Slave PIO

PIO means Programmed Input/Output. Rather than have the BIOS issue a series of commands to effect a transfer to or from the disk drive, PIO allows the BIOS to tell the controller what it wants and then let the controller and the CPU perform the complete task by themselves. Your system supports five modes, 0 (default) to 4, which primarily differ in timing. When Auto is selected, the BIOS will select the best available mode after checking your drive.

| | |
|---|---|
| *Auto* | The BIOS will automatically set the system according to your hard disk drive's timing. |
| *Mode 0-4* | You can select a mode that matches your hard disk drive's timing. Caution: Do not use the wrong setting or you will have drive errors. |

### 3.1.4.5 Primary Master/Slave UDMA and Secondary Master/Slave UDMA

These fields allow you to set the Ultra DMA in use. When Auto is selected, the BIOS will select the best available option after checking your hard drive or CD-ROM.

| | |
|---|---|
| *Auto* | The BIOS will automatically detect the settings for you. |
| *Disabled* | The BIOS will not detect these categories. |

### 3.1.4.6 IDE Prefetch Mode

This allows data and addresses to be stored in the internal buffer of the chip, thus reducing access time. Enable this field to achieve better performance.

### 3.1.4.7 Init Display First

This field is used to select whether to initialize the AGP or PCI first when the system boots.

| | |
|---|---|
| *Onboard/AGP* | When the system boots, it will first initialize the AGP. |
| *PCI Slot* | When the system boots, it will first initialize PCI. |

### 3.1.4.8 Serial ATA

This field is used to enable or disable the onboard Serial ATA.

### 3.1.4.9 SATA Spread Spectrum

This field is used to enable or disable the SATA spread spectrum.

### 3.1.4.10 IDE DMA Transfer Access

This field is used to enable or disable the DMA transfer function of an IDE hard drive.

### 3.1.4.11 BIOS Flash Protect

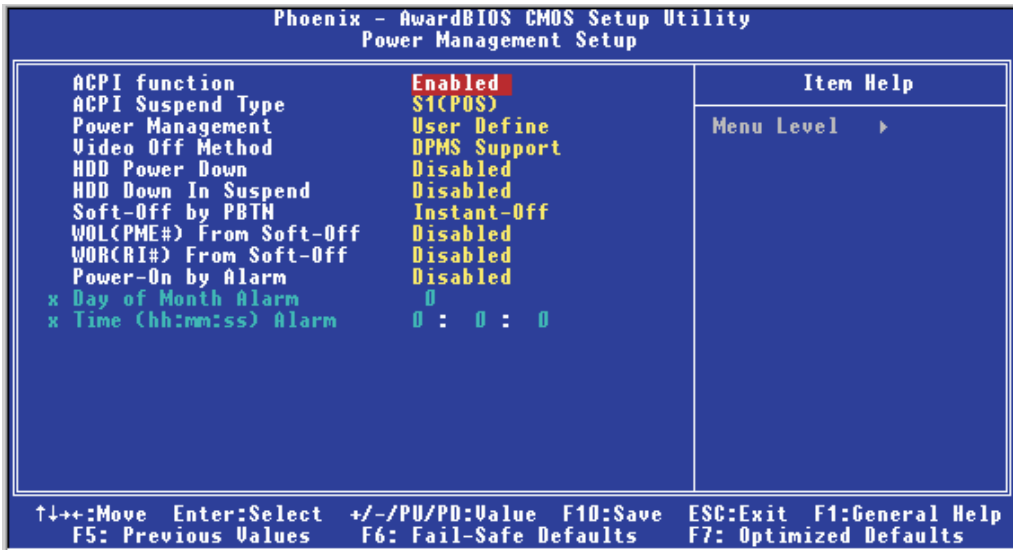
| | |
|---|---|
| *Enabled* | This option will protect the system from unnecessary updating or flashing of the BIOS. When enabled, it secures the BIOS therefore any updates to the BIOS will not take effect. |
| *Disabled* | Disables the "BIOS flash lock" function, allowing you to update or flash the BIOS any time needed. |

### 3.1.4.12 IDE HDD Block Mode

| | |
|---|---|
| *Enabled* | The IDE HDD uses the block mode. The system BIOS will check the hard disk drive for the maximum block size the system can transfer. The block size will depend on the type of hard disk drive. |
| *Disabled* | The IDE HDD uses the standard mode. |

## 3.1.5 Power Management Setup

The Power Management Setup allows you to configure your system to most effectively save energy.


Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup
ACPI function Enabled
ACPI Suspend Type S1(POS)
Power Management User Define
Video Off Method DPMS Support
HDD Power Down Disabled
HDD Down In Suspend Disabled
Soft-Off by PBTN Instant-Off
WOL(PME#) From Soft-Off Disabled
WOR(RI#) From Soft-Off Disabled
Power-On by Alarm Disabled
x Day of Month Alarm 0
x Time (hh:mm:ss) Alarm 0 : 0 : 0
Item Help
Menu Level ▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

The settings on the screen are for reference only. Your version may not be identical to this one.

### 3.1.5.1 ACPI Function

This function should be enabled only in operating systems that support ACPI. Currently, only Windows® 98SE/2000/ME/XP supports this function. When this field is enabled, the system will ignore the settings in the "HDD Power Down" field. If you want to use the Suspend to RAM function, make sure this field is enabled then select "S3(STR)" in the field below.

### 3.1.5.2 ACPI Suspend Type

This field is used to select the type of Suspend mode.

| | |
|---|---|
| *S1(POS)* | Enables the Power On Suspend function. |
| *S3(STR)* | Enables the Suspend to RAM function. |

### 3.1.5.3 Power Management

This field allows you to select the type (or degree) of power saving by changing the length of idle time that elapses before the "HDD Power Down" field is activated.

| | |
|---|---|
| *Min Saving* | Minimum power saving time for the "HDD Power Down" = 15 min. |
| *Max Saving* | Maximum power saving time for the "HDD Power Down" = 1 min. |
| *User Define* | Allows you to set the power saving time in the "HDD Power Down" field. |

### 3.1.5.4 Video Off Method

This determines the manner in which the monitor is blanked.

| | |
|---|---|
| *V/H SYNC + Blank* | This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer. |
| *Blank Screen* | This option only writes blanks to the video buffer. |
| *DPMS* | Initializes display power management signaling. Use this option if your video board supports it. |

### 3.1.5.5 HDD Power Down

This is selectable only when the Power Management field is set to User Define. When the system enters the HDD Power Down mode according to the power saving time selected, the hard disk drive will be powered down while all other devices remain active.

### 3.1.5.6 HDD Down In Suspend

The default setting is Disabled. When enabled, the hard drive will be powered off once the system enters the Suspend mode.

### 3.1.5.7 Soft-Off by PBTN

This field allows you to select the method of powering off your system.

*Delay 4 Sec.* Regardless of whether the Power Management function is enabled or disabled, if the power button is pushed and released in less than 4 sec, the system enters the Suspend mode. The purpose of this function is to prevent the system from powering off in case you accidentally "hit" or pushed the power button. Push and release again in less than 4 sec to restore. Pushing the power button for more than 4 seconds will power off the system.

*Instant-Off* Pressing and then releasing the power button at once will immediately power off your system.

### 3.1.5.8 WOL (PME#) From Soft-Off

Set this field to Enabled to wake up the system via the onboard LAN or via a LAN card that uses the PCI PME (Power Management Event) signal to remotely wake up the system. Access to the LAN card will cause the system to wake up. Refer to the card's documentation for more information.

### 3.1.5.9 WOR (RI#) From Soft-Off

Set this field to Enabled to wake up the system via an external modem or via a modem card that uses the PCI PME (Power Management Event) signal to remotely wake up the system. Access to the modem card will cause the system to wake up. Refer to the card's documentation for more information.

### 3.1.5.10 Power-On By Alarm

*Enabled* When Enabled, you can set the time you would like the Soft Power Down (Soft-Off) PC to power-on in the "Time (dd:hh:mm) of Alarm" field. However, if the system is being accessed by incoming calls or the network prior to the time set in the field, the system will give priority to the incoming calls or network.

*Disabled* Disables the automatic power-on function. (default)

### 3.1.5.11 Day (of Month) Alarm

*0* The system will power-on everyday according to the time set in the "Time (hh:mm:ss) Alarm" field.

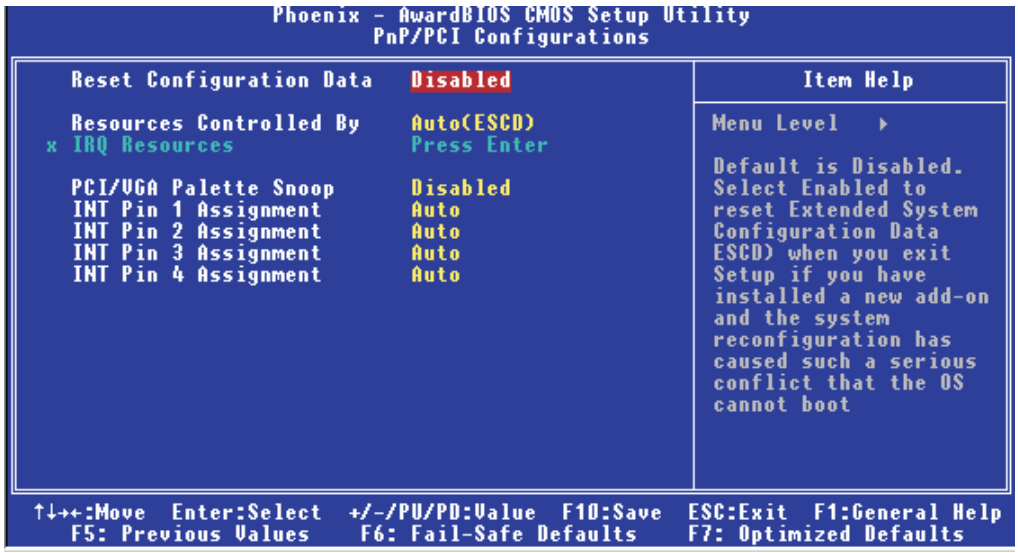
1-31 Select a date you would like the system to power-on. The system will power-on on the set date, and time set in the "Time (hh:mm:ss) Alarm" field.

### 3.1.5.12 Time (hh:mm:ss) of Alarm

This is used to set the time you would like the system to power-on.

## 3.1.6 PnP/PCI Configurations

This section describes configuring the PCI bus system. It covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.


Phoenix - AwardBIOS CMOS Setup Utility
PnP/PCI Configurations
Reset Configuration Data Disabled
Resources Controlled By Auto(ESCD)
x IRQ Resources Press Enter
PCI/VGA Palette Snoop Disabled
INT Pin 1 Assignment Auto
INT Pin 2 Assignment Auto
INT Pin 3 Assignment Auto
INT Pin 4 Assignment Auto
Item Help
Menu Level ▸
Default is Disabled. Select Enabled to reset Extended System Configuration Data ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

The settings on the screen are for reference only. Your version may not be identical to this one.

### 3.1.6.1 Reset Configuration Data

*Enabled* The BIOS will reset the Extended System Configuration Data (ESCD) once automatically. It will then recreate a new set of configuration data.

*Disabled* The BIOS will not reset the configuration data.

### 3.1.6.2 Resources Controlled By

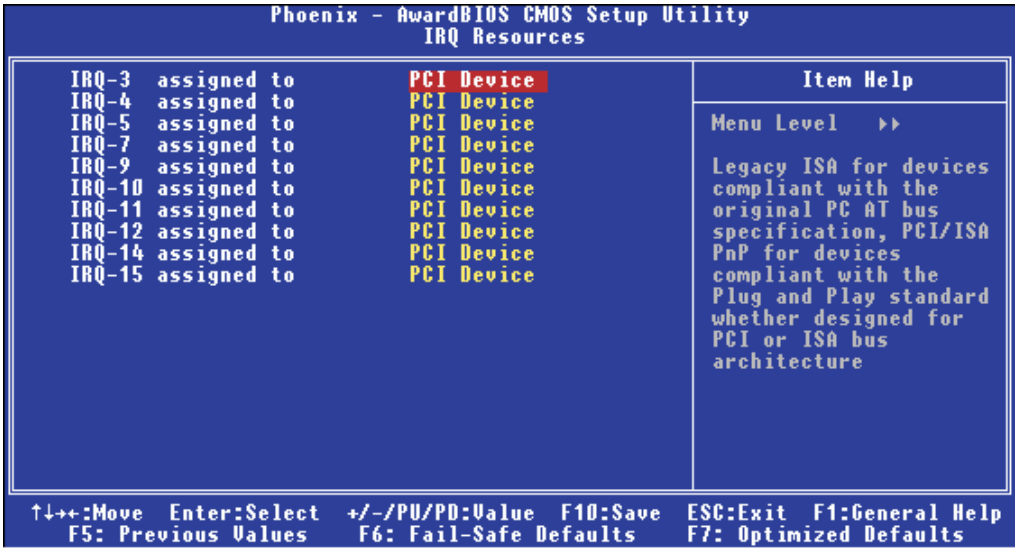
The Award Plug and Play BIOS has the capability to automatically configure all of the boot and Plug and Play compatible devices.

*Auto(ESCD)* The system will automatically detect the settings for you.

*Manual* Choose the specific IRQ in the "IRQ Resources" field.

### 3.1.6.3 IRQ Resources

Move the cursor to this field and press <Enter>. This field is used to set each system interrupt to either Reserved or PCI Device.


Phoenix - AwardBIOS CMOS Setup Utility
IRQ Resources
IRQ-3 assigned to PCI Device
IRQ-4 assigned to PCI Device
IRQ-5 assigned to PCI Device
IRQ-7 assigned to PCI Device
IRQ-9 assigned to PCI Device
IRQ-10 assigned to PCI Device
IRQ-11 assigned to PCI Device
IRQ-12 assigned to PCI Device
IRQ-14 assigned to PCI Device
IRQ-15 assigned to PCI Device
Item Help
Menu Level ▸▸
Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

The settings on the screen are for reference only. Your version may not be identical to this one.

### 3.1.6.4 PCI/VGA Palette Snoop

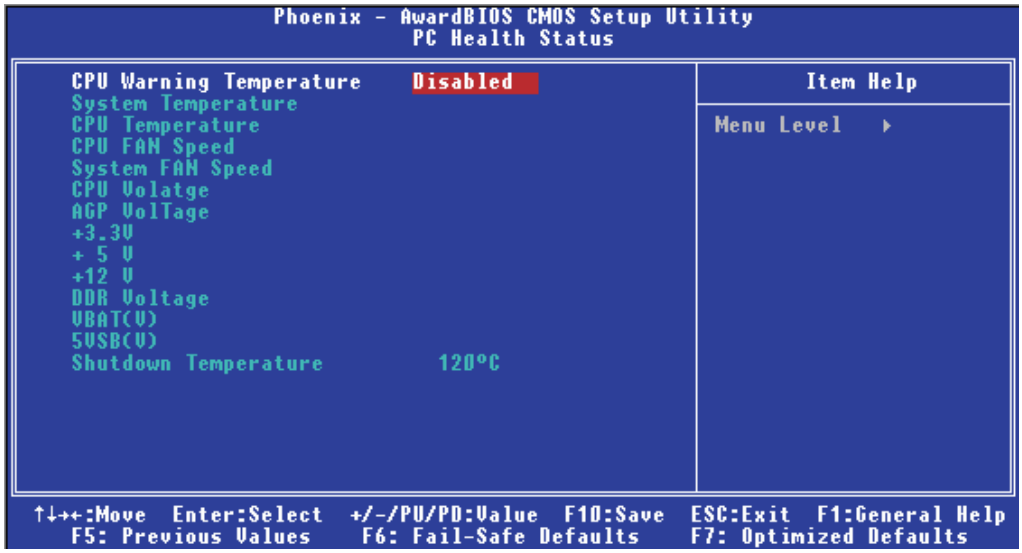
This field determines whether the MPEG ISA/VESA VGA cards can work with PCI/VGA or not.

*Enabled* MPEG ISA/VESA VGA cards work with PCI/VGA.
*Disabled* MPEG ISA/VESA VGA cards does not work with PCI/VGA.

### 3.1.6.5 INT Pin 1 Assignment to INT Pin 4 Assignment

By default, a device is automatically assigned to each INT. You can also manually assign an INT for each device.

## 3.1.7 PC Health Status




The settings on the screen are for reference only. Your version may not be identical to this one.

### 3.1.7.1 CPU Warning Temperature

This field is used to select the CPU's temperature limit. Once the system has detected that the CPU's temperature exceeded the limit, warning beeps will sound.

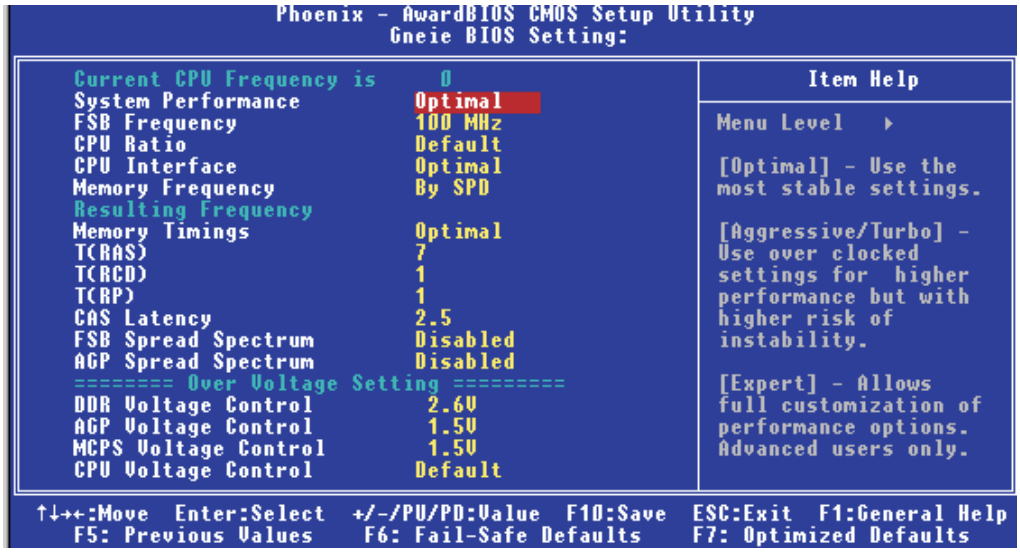
### 3.1.7.2 System Temperature, CPU Temperature, CPU Fan Speed, System Fan Speed, CPU Voltage, AGP Voltage, +3.3V, +5V, +12V, DDR Voltage, VBAT(V) and 5VSB(V)

These fields will show the temperature, fan speed and output voltage of the monitored devices or components.

### 3.1.7.3 Shutdown Temperature

You can prevent the system from overheating by selecting a temperature in this field. If the system detected that its temperature exceeded the one set in this field, it will automatically shutdown.

## 3.1.8 Genie BIOS Setting


Phoenix - AwardBIOS CMOS Setup Utility
Gneie BIOS Setting:
Current CPU Frequency is 0
System Performance Optimal
FSB Frequency 100 MHz
CPU Ratio Default
CPU Interface Optimal
Memory Frequency By SPD
Resulting Frequency
Memory Timings Optimal
T(RAS) 7
T(RCD) 1
T(RP) 1
CAS Latency 2.5
FSB Spread Spectrum Disabled
AGP Spread Spectrum Disabled
======== Over Voltage Setting =========
DDR Voltage Control 2.6V
AGP Voltage Control 1.5V
MCPS Voltage Control 1.5V
CPU Voltage Control Default
Item Help
Menu Level ▸
[Optimal] - Use the most stable settings.
[Aggressive/Turbo] - Use over clocked settings for higher performance but with higher risk of instability.
[Expert] - Allows full customization of performance options. Advanced users only.
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

The settings on the screen are for reference only. Your version may not be identical to this one.

### 3.1.8.1 Current CPU Frequency is

This field will show the detected frequency of the CPU.

### 3.1.8.2 System Performance

This field is used to configure the system's performance.

| | |
|---|---|
| *Optimal* | This option provides the most stable system performance. |
| *Aggressive* | This option uses the overclock settings for higher performance but with higher risk of instability. |
| *Turbo* | This option uses the overclock setting for higher performance but with higher risk of instability. |
| *Expert* | This option allows you to manually configure the "CPU Interface" and "Memory Timings" fields. |

### 3.1.8.3 FSB Frequency

This field provides several options for selecting the FSB of the CPU. The available options allow you to adjust the CPU's bus clock by 1MHz increment.

**Important:**
*Selecting a bus frequency other than the default setting may result to the CPU's or system's instability and are not guaranteed to provide better system performance.*

### 3.1.8.4 CPU Ratio

This field is used to select the frequency ratio of the processor.

**Important:**
*The frequency ratio of some processors may have been locked by the manufacturer. If you are using this kind of processor, setting an extended ratio for the processor will have no effect. The system will instead use its factory default ratio.*

### 3.1.8.5 CPU Interface

This field is used to configure the CPU's interface.

| | |
|---|---|
| *Optimal* | Uses the most stable CPU/FSB parameters. |
| *Aggressive* | Uses the overclock CPU/FSB parameters. |

### 3.1.8.6 Memory Frequency

| | |
|---|---|
| *Auto* | The system will automatically detect the frequency of the DIMM. |
| *By SPD* | The EEPROM on a DIMM has SPD (Serial Presence Detect) data structure that stores information about the module such as the memory type, memory size, memory speed, etc. When this option is selected, the system will run according to the information in the EEPROM. This option is the default setting because it provides the most stable condition for the system. |

### 3.1.8.7 Resulting Frequency

This field will show the current frequency of the DIMM.

### 3.1.8.8 Memory Timings

This field is used to select the memory timing of the DRAM. The options are Optimal, Aggressive, Turbo and Expert.. Select "Expert" to manually configure the following fields.

### 3.1.8.9 T(RAS) - Row-Active Delay

The options are 1 to 15.

### 3.1.8.10 T(RCD) - RAS-to-CAS Delay

The options are 1 to 7

### 3.1.8.11 T(RP) - Row-Precharge Delay

The options are 1 to 7

### 3.1.8.12 CAS Latency

This field is used to select the clock cycle of the SDRAM CAS latency time. The option selected specifies the time before SDRAM starts a read command after receiving it.

### 3.1.8.13 FSB Spread Spectrum

The options are Disabled, 0.50% and 1.00%.

### 3.1.8.14 AGP Spread Spectrum

The options are Disabled and 0.50%.

### 3.1.8.15 DDR Voltage Control

This field allows you to manually select higher voltage supplied to the DRAM. If you want to use the DRAM's default voltage, leave this field in its default setting, which is "Default".

**Important:**
*Although this function is supported, we do not recommend that you use a higher voltage because unstable current may be supplied to the system board causing damage.*

### 3.1.8.16 AGP Voltage Control

This field allows you to manually select higher voltage supplied to the AGP. If you want to use the default voltage, leave this field in its default setting.

**Important:**
*Although this function is supported, we do not recommend that you use a higher voltage because unstable current may be supplied to the system board causing damage.*

### 3.1.8.17 MCPS Voltage Control

This field allows you to manually select higher voltage supplied to the south bridge. If you want to use the default voltage, leave this field in its default setting.

**Important:**
*Although this function is supported, we do not recommend that you use a higher voltage because unstable current may be supplied to the system board causing damage.*

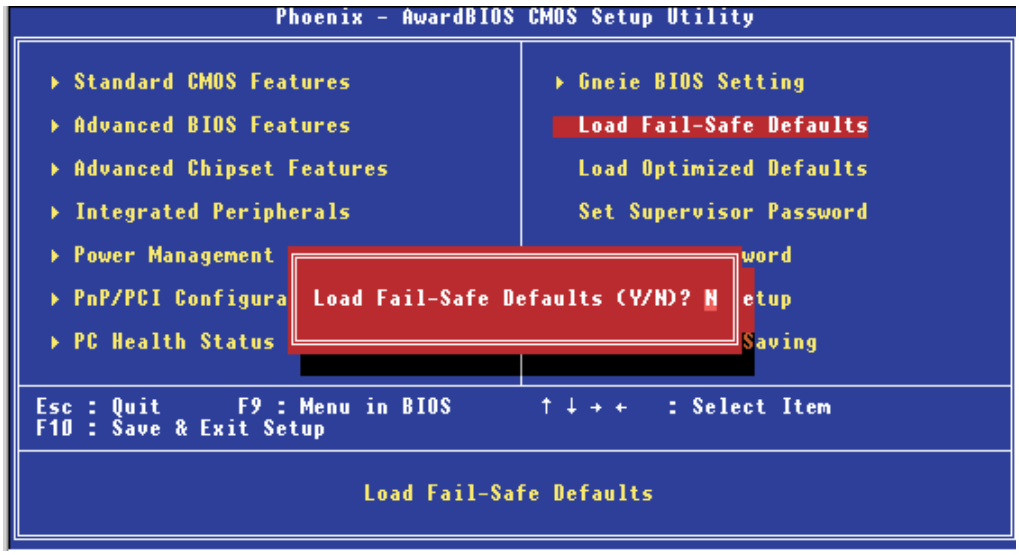
### 3.1.8.18 CPU Voltage Control

This field allows you to manually adjust to a higher core voltage that is supplied to the CPU. If you want to use the CPU's default core voltage, leave this field in its default setting. The CPU's Vcore will be generated according to the CPU VID configuration.

**Important:**
*Although this function is supported, we do not recommend that you use a higher voltage because unstable current may be supplied to the system board causing damage.*

## 3.1.9 Load Fail-Safe Defaults

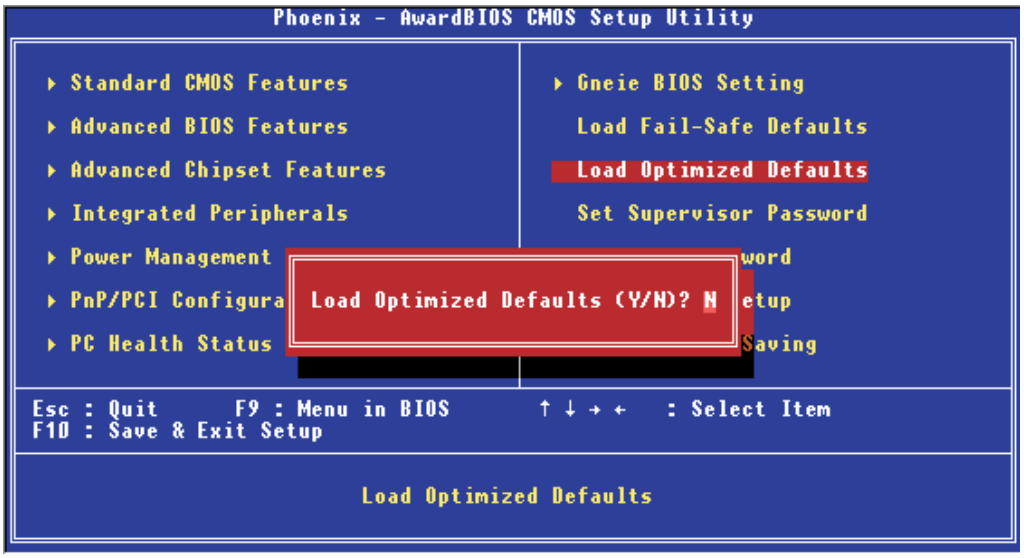
The "Load Fail-Safe Defaults" option loads the troubleshooting default values permanently stored in the ROM chips. These settings are not optimal and turn off all high performance features. You should use these values only if you have hardware problems. Highlight this option in the main menu and press <Enter>.




If you want to proceed, type <Y> and press <Enter>. The default settings will be loaded.

## 3.1.10 Load Optimized Defaults

The "Load Optimized Defaults" option loads optimized settings from the BIOS ROM. Use the default values as standard values for your system. Highlight this option in the main menu and press <Enter>.

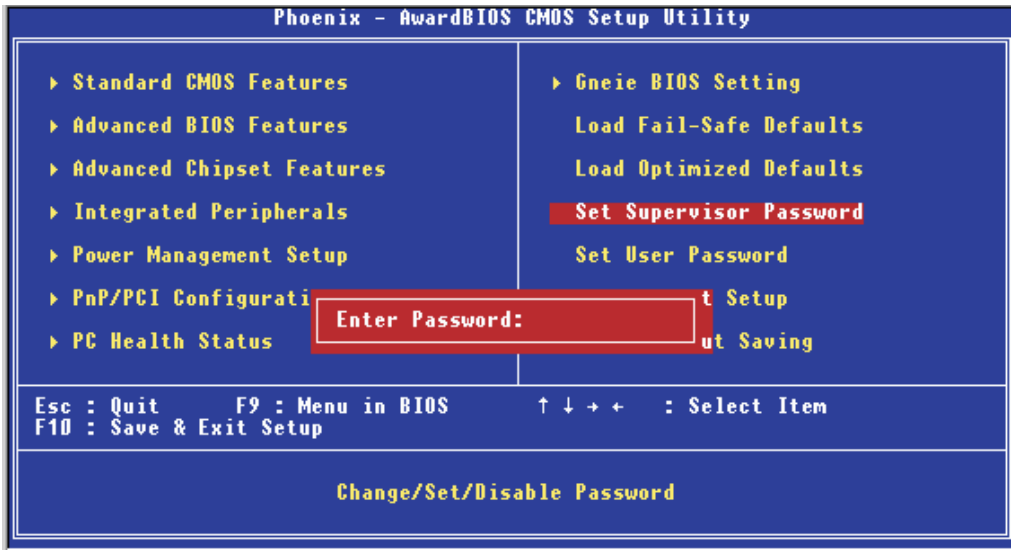



Type <Y> and press <Enter> to load the Setup default values.

## 3.1.11 Set Supervisor Password

If you want to protect your system and setup from unauthorized entry, set a supervisor's password with the "System" option selected in the Advanced BIOS Features. If you want to protect access to setup only, but not your system, set a supervisor's password with the "Setup" option selected in the Advanced BIOS Features. You will not be prompted for a password when you cold boot the system.

Use the arrow keys to highlight "Set Supervisor Password" and press <Enter>.




Type in the password. You are limited to eight characters. When done, the message below will appear:

Confirm Password:

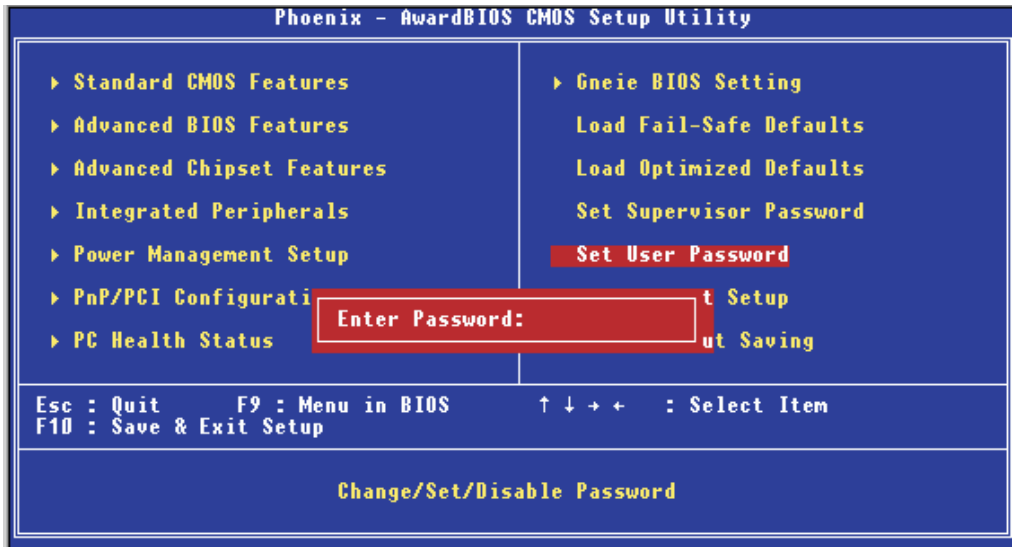
You are asked to verify the password. Type in exactly the same password. If you type in a wrong password, you will be prompted to enter the correct password again. To delete or disable the password function, highlight "Set Supervisor Password" and press <Enter>, instead of typing in a new password. Press the <Esc> key to return to the main menu.

## 3.1.12 Set User Password

If you want another user to have access only to your system but not to setup, set a user's password with the "System" option selected in the Advanced BIOS Features. If you want a user to enter a password when trying to access setup, set a user's password with the "Setup" option selected in the Advanced BIOS Features.

Using user's password to enter Setup allows a user to access only "Set User Password" that appears in the main menu screen. Access to all other options is denied.

Use the arrow keys to highlight "Set User Password" and press <Enter>.



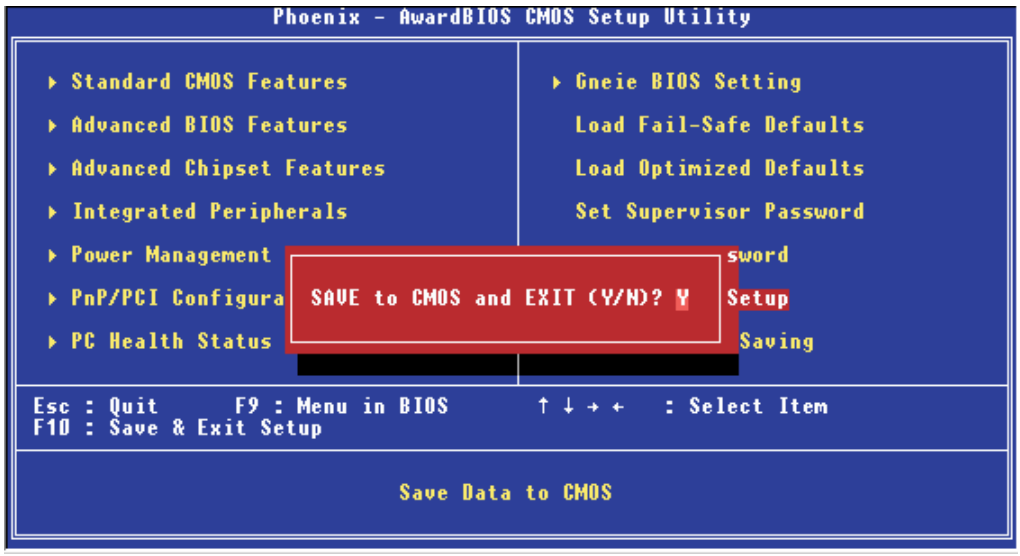

Type in the password. You are limited to eight characters. When done, the message below will appear:

Confirm Password:

You are asked to verify the password. Type in exactly the same password. If you type in a wrong password, you will be prompted to enter the correct password again. To delete or disable the password function, highlight "Set User Password" and press <Enter>, instead of typing in a new password. Press the <Esc> key to return to the main menu.

## 3.1.13 Save & Exit Setup

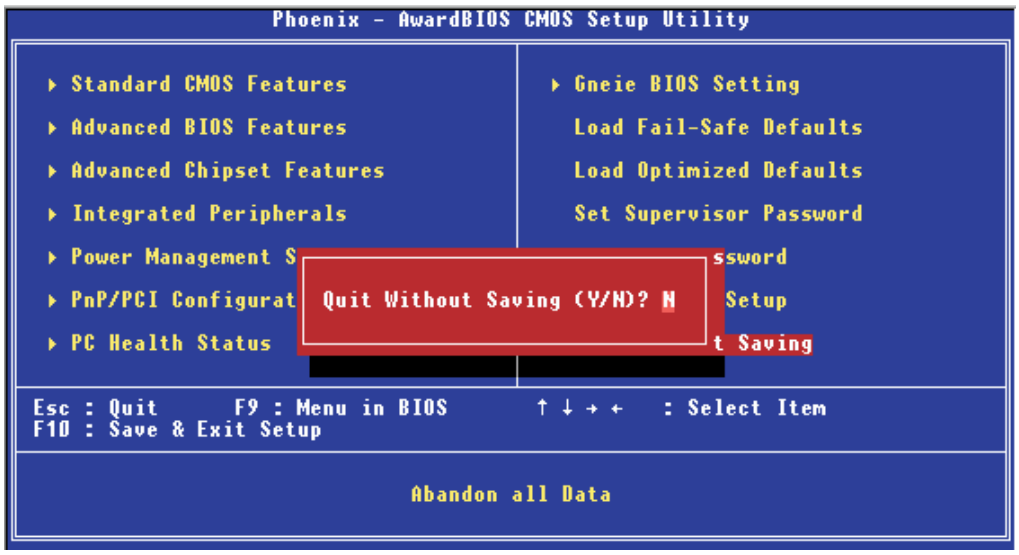
When all the changes have been made, highlight "Save & Exit Setup" and press <Enter>.




Type "Y" and press <Enter>. The modifications you have made will be written into the CMOS memory, and the system will reboot. You will once again see the initial diagnostics on the screen. If you wish to make additional changes to the setup, press <Ctrl> <Alt> <Esc> simultaneously or <Del> after memory testing is done.

### 3.1.14 Exit Without Saving

When you do not want to save the changes you have made, highlight "Exit Without Saving" and press <Enter>.




Type "Y" and press <Enter>. The system will reboot and you will once again see the initial diagnostics on the screen. If you wish to make any changes to the setup, press <Ctrl> <Alt> <Esc> simultaneously or <Del> after memory testing is done.

## 3.2 NVRAID BIOS

The NVRAID BIOS utility is used to configure and manage RAID on Serial ATA drives and Parallel ATA drives.

**Important:**
*Before you run the NVIDIA RAID BIOS utility, make sure the RAID function in the Integrated Peripherals submenu ("RAID Config" section) of the Award BIOS is configured properly.*

After you power up the system and all hard disk drives have been detected, the NVRAID BIOS status message screen will appear. Press the <F10> key to enter the utility. The utility allows you to build a RAID system on SATA drives and Parallel ATA drives.

## 3.3 Updating the BIOS

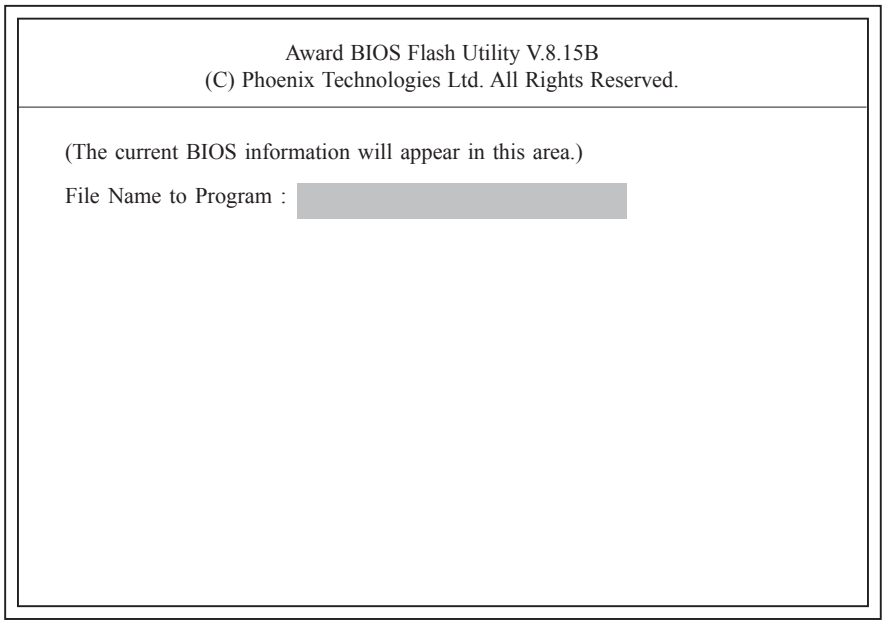
To update the BIOS, you will need the new BIOS file and a flash utility, AWDFLASH.EXE. You can download them from DFI's web site or contact technical support or your sales representative.

1. Save the new BIOS file along with the flash utility AWDFLASH.EXE to a floppy disk.

2. Reboot the system and enter the Award BIOS Setup Utility to set the first boot drive to "Floppy".

3. Save the setting and reboot the system.

4. After the system booted from the floppy disk, execute the flash utility by typing AWDFLASH.EXE. The following screen will appear.


Award BIOS Flash Utility V.8.15B
(C) Phoenix Technologies Ltd. All Rights Reserved.
(The current BIOS information will appear in this area.)
File Name to Program :

5. Type the new BIOS file name onto the gray area that is next to "File Name to Program" then press <Enter>.

6. The following will appear:

   Do You Want to Save BIOS (Y/N)

   This question refers to the current existing BIOS in your system. We recommend that you save the current BIOS and its flash utility; just in case you need to reinstall the BIOS. To save the current BIOS, press <Y> then enter the file name of the current BIOS. Otherwise, press <N>.

7. The following will then appear:

   Press "Y" to Program or "N" to Exit

8. Press <Y> to flash the new BIOS.

# Chapter 4 - Supported Software

## 4.1 Drivers, Utilities and Software Applications

The CD that came with the system board contains drivers, utilities and software applications required to enhance the performance of the system board.

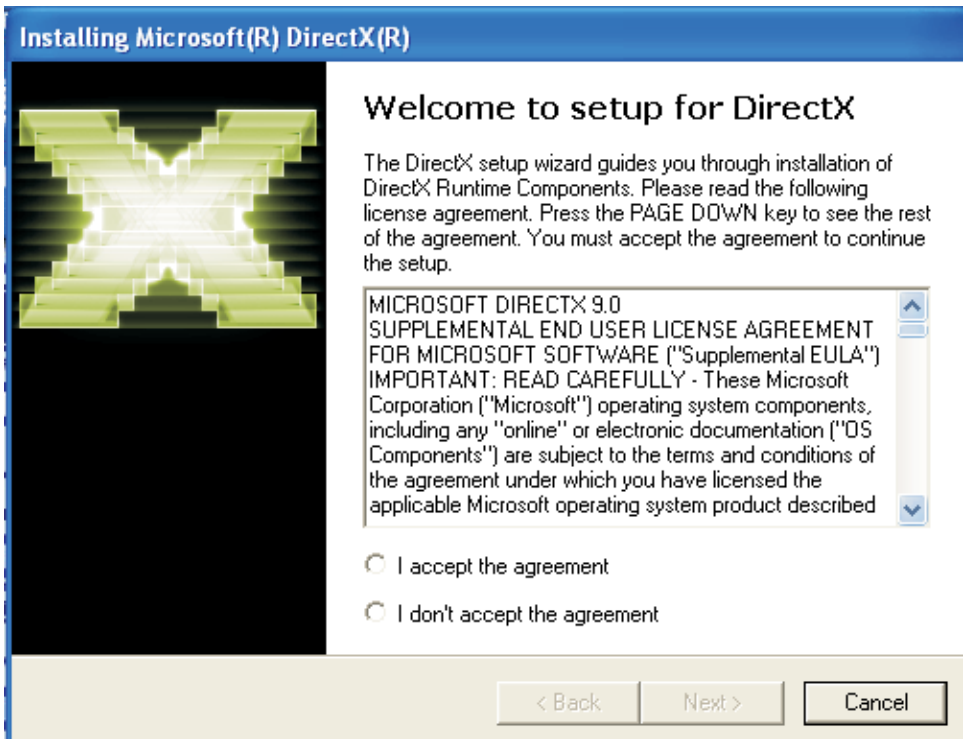
Insert the CD into a CD-ROM drive. The autorun screen (Mainboard Utility CD) will appear. If after inserting the CD, "Autorun" did not automatically start (which is, the Mainboard Utility CD screen did not appear), please go directly to the root directory of the CD and double-click "Setup".

**Important:**
*You must first install Microsoft DirectX 9 prior to installing the "nVidia Windows nForce Drivers".*

### 4.1.1 Microsoft DirectX 9

To install, please follow the steps below.

1. On the left side of the autorun screen, click the "TOOLS" icon.
2. Click "Microsoft DirectX 9" on the main menu. The following screen will appear.


Installing Microsoft(R) DirectX(R)
Welcome to setup for DirectX
The DirectX setup wizard guides you through installation of DirectX Runtime Components. Please read the following license agreement. Press the PAGE DOWN key to see the rest of the agreement. You must accept the agreement to continue the setup.
MICROSOFT DIRECTX 9.0
SUPPLEMENTAL END USER LICENSE AGREEMENT
FOR MICROSOFT SOFTWARE ("Supplemental EULA")
IMPORTANT: READ CAREFULLY - These Microsoft Corporation ("Microsoft") operating system components, including any "online" or electronic documentation ("OS Components") are subject to the terms and conditions of the agreement under which you have licensed the applicable Microsoft operating system product described
I accept the agreement
I don't accept the agreement
< Back
Next >
Cancel

3. Click "I accept the agreement" then click "Next".
4. Follow the prompts on the screen to complete installation.
5. Reboot the system for the driver to take effect.

## 4.1.2 NVIDIA Windows nForce Drivers

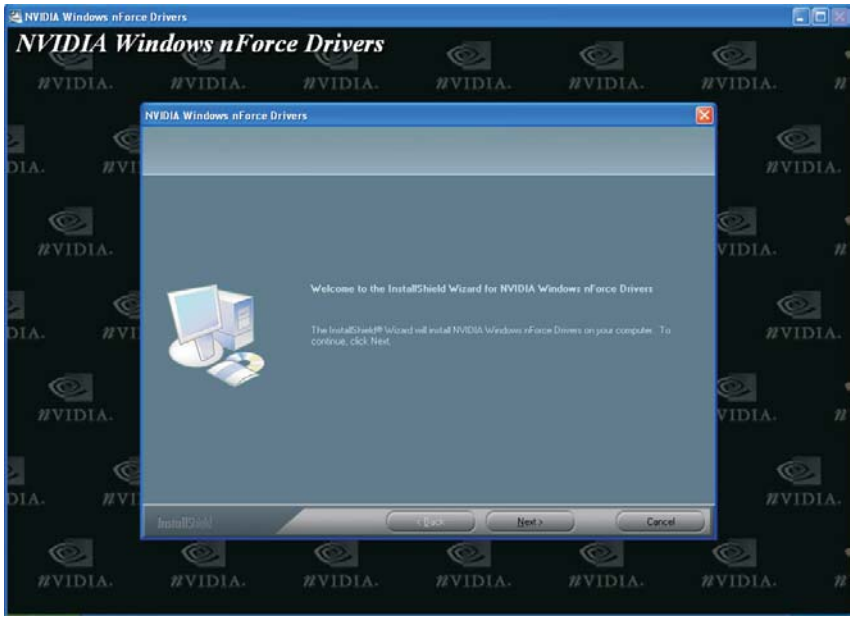
The NVIDIA Windows nForce Drivers contains the following.

- NVIDIA GART Driver
- NVIDIA SMBus Driver
- NVIDIA Ethernet Driver
- NVIDIA IDE Driver
- NVIDIA Audio Driver

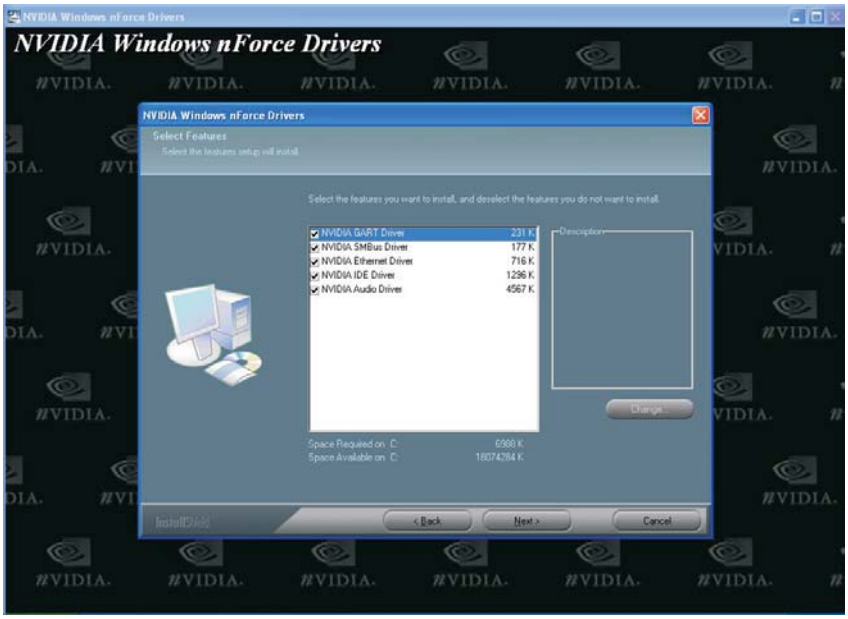
To install NVIDIA Windows nForce Drivers, please follow the steps below.

1. On the left side of the autorun screen, click the "CHIPSET" icon.

2. Click "nVidia nF2 Drivers" on the main menu. The following screen will appear. Click "Next".


NVIDIA Windows nForce Drivers
NVIDIA Windows nForce Drivers
NVIDIA Windows nForce Drivers
Welcome to the InstallShield Wizard for NVIDIA Windows nForce Drivers
Next >
Cancel

3. The following screen will appear. Select the drivers you want to install. The drivers will be installed automatically. Make sure you have selected "NVIDIA IDE Driver" because this driver will replace Windows ATA drivers enabling the processor and other system level hardware to be more productive and efficient. Click "Next" to continue.



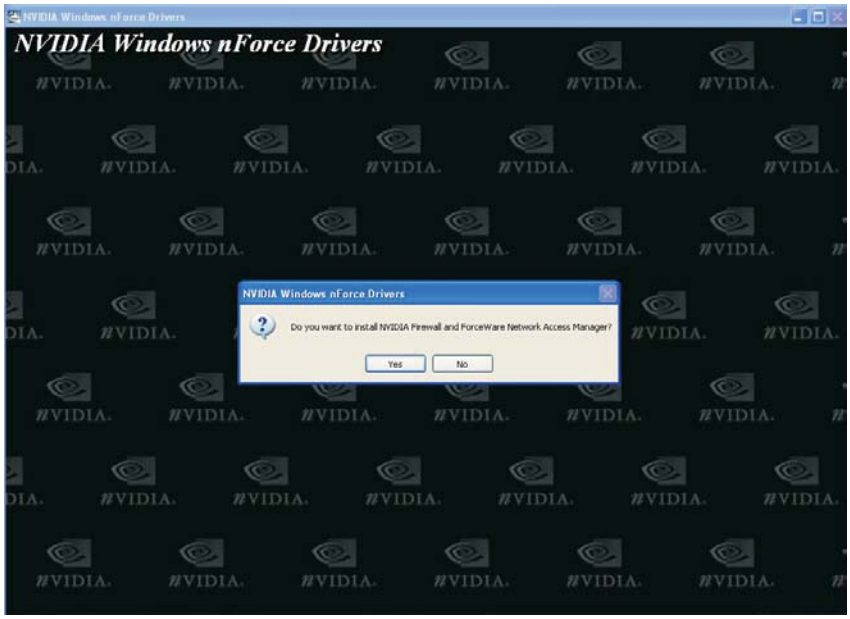

4. The following screen will appear. Click "Next".

NVIDIA Windows nForce Drivers
NVIDIA Windows nForce Drivers
NVIDIA IDE SW Driver Information
Please review the below information about the NVIDIA IDE SW driver.
NVIDIA IDE SW Driver Information
The NVIDIA IDE SW driver reduces the storage sub-system bottleneck, enabling the processor and other system level hardware to be more productive and efficient.
In most cases, the NVIDIA IDE SW driver is not a requirement for your operating system to work properly.
Next >
Cancel

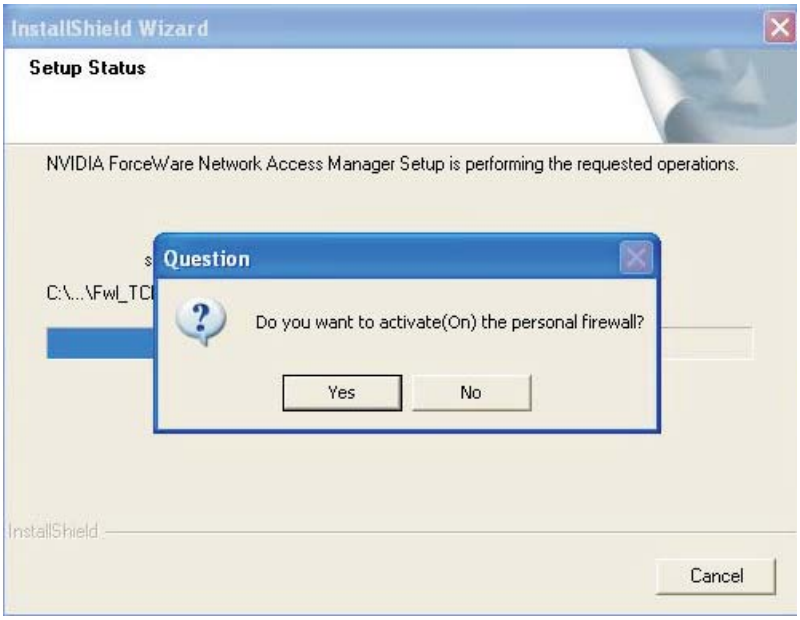
The nForce2 MCP GIG south bridge which is used on the nF2 U400SG-AGF system board supports NVIDIA Firewall. If you

are using this system board, the following steps will appear allowing you to install the NVIDIA Firewall driver. Firewall will filter and stop unauthorized access to your PC providing full security solution.

5. When prompted about installing NVIDIA Firewall and ForceWare Network Access Manager, click "Yes".


NVIDIA Windows nForce Drivers
NVIDIA Windows nForce Drivers
Do you want to install NVIDIA Firewall and ForceWare Network Access Manager?
Yes
No

6. The following screen will appear. Click "Yes" to activate Firewall.

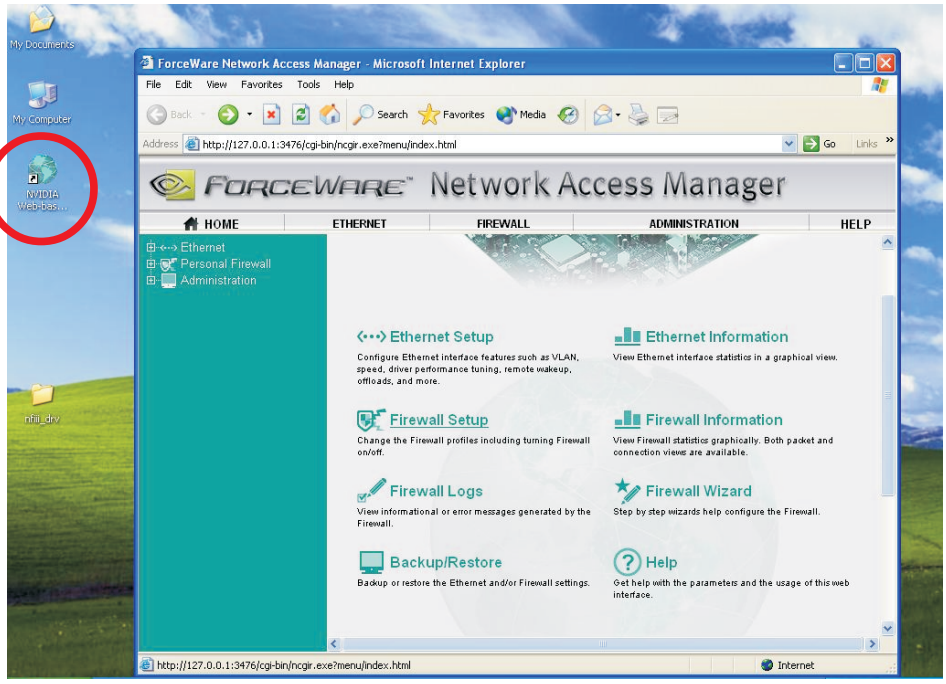



7. Follow the prompts on the screen to complete installation.

# 4 Supported Software

## NVIDIA ForceWare Network Access Manager

After completing installation, the "NVIDIA web-based..." icon is automatically created on your desktop. Double-click this icon to launch the NVIDIA ForceWare Network Access Manager utility. The utility allows you to configure the Ethernet interface features and personal Firewall for optimized security. This prevents unauthorized access to your system's software or data.


ForceWare Network Access Manager - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://127.0.0.1:3476/cgi-bin/ncgir.exe?menu/index.html
FORCEWARE Network Access Manager
HOME
ETHERNET
FIREWALL
ADMINISTRATION
HELP
Ethernet
Personal Firewall
Administration
Ethernet Setup
Configure Ethernet interface features such as VLAN, speed, driver performance tuning, remote wakeup, offloads, and more.
Ethernet Information
View Ethernet interface statistics in a graphical view.
Firewall Setup
Change the Firewall profiles including turning Firewall on/off.
Firewall Information
View Firewall statistics graphically. Both packet and connection views are available.
Firewall Logs
View informational or error messages generated by the Firewall.
Firewall Wizard
Step by step wizards help configure the Firewall.
Backup/Restore
Backup or restore the Ethernet and/or Firewall settings.
Help
Get help with the parameters and the usage of this web interface.
http://127.0.0.1:3476/cgi-bin/ncgir.exe?menu/index.html
Internet

## 4.1.3 RAID Configuration

The following describes the basic steps on configuring RAID.

1. Set the "IDE RAID" field to "Enabled". (Integrated Peripherals submenu - "RAID Config" section of the Award BIOS.)
2. Enable the IDE Channel 0, IDE Channel 1 and Serial ATA drives to allow configuring RAID on these drives. (Integrated Peripherals submenu - "RAID Config" section of the Award BIOS.)
3. Run the NVIDIA RAID BIOS utility by pressing the <F10> key after the system powers-up. The utility is used to configure and manage RAID on both Serial ATA and Parallel ATA drives.
4. Install the NVRAID driver by using the provided "nVRAID Driver" floppy diskette. The driver must be installed if you are in the process of installing Windows® XP or Windows® 2000 on RAID configured Serial ATA drives.
5. Install the NVIDIA Windows nForce Drivers.

The steps below will instruct you on installing the RAID driver while in the process of installing Windows® XP or Windows® 2000 on RAID configured Serial ATA drives.

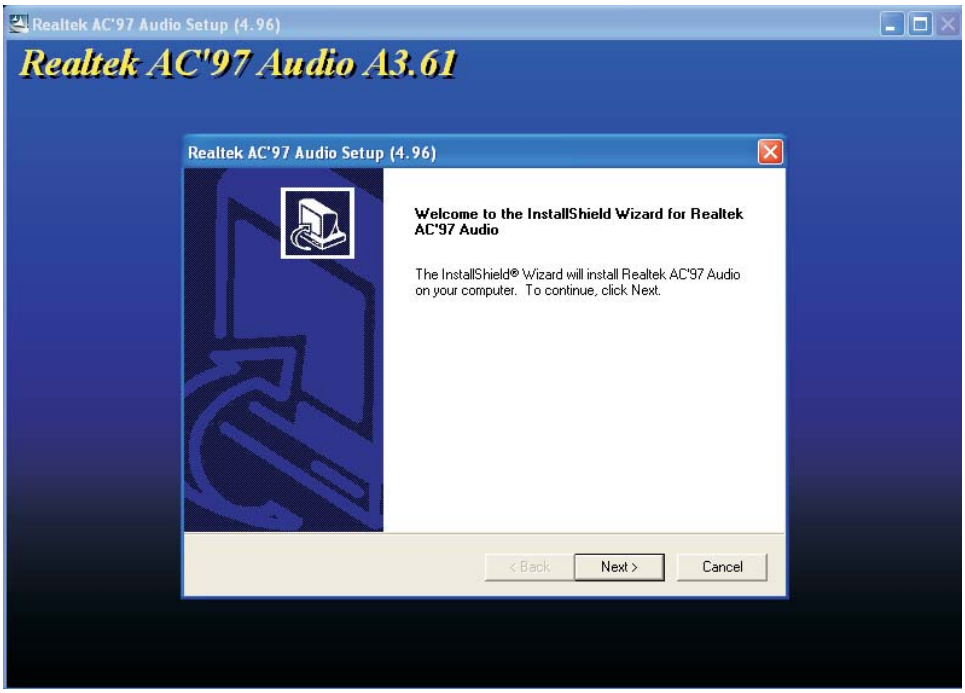
### Installing the RAID Driver

1. Start Windows Setup by booting from the installation CD.
2. Press <F6> when prompted at the beginning of Windows setup.
3. Press <S> to select "Specify Additional Device".
4. At this point you will be prompted to insert a floppy disk containing the RAID driver. Insert the "NVRAID Driver" diskette.
5. Locate for the drive where you inserted the diskette then select "NVIDIA nForce2 ATA Controller" to install the driver.
6. Now press <S> again to specify another device.
7. This time, select "NVIDIA nForce2 ATA RAID Class Controller".
8. Follow the prompts on the screen to complete installation.

## 4.1.4 Audio Drivers

If you are using S/PDIF-in, you must install the Realtek audio driver. To install the driver, please follow the steps below.

1. On the left side of the autorun screen, click the "AUDIO" icon.
2. Click "Audio Drivers" on the main screen. The following screen will appear.

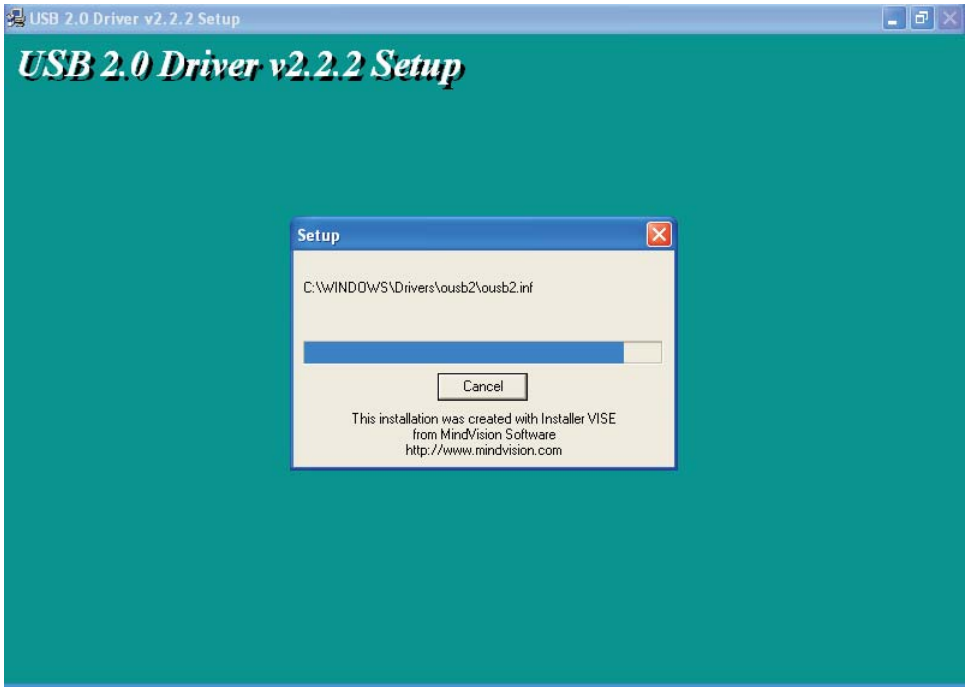

Realtek AC'97 Audio Setup (4.96)
Realtek AC'97 Audio A3.61
Realtek AC'97 Audio Setup (4.96)
Welcome to the InstallShield Wizard for Realtek AC'97 Audio
The InstallShield® Wizard will install Realtek AC'97 Audio on your computer. To continue, click Next.
< Back
Next >
Cancel

3. Follow the prompts on the screen to complete installation.
4. Restart the system.

### 4.1.5 USB 2.0 Drivers

If you are using a USB 2.0 device under Windows® 98 or Windows® ME, you must install the USB 2.0 driver. To install, please follow the steps below.

1. On the left side of the autorun screen, click the "USB" icon.
2. Click "USB 2.0 Drivers". The following screen will appear.




3. Follow the prompts on the screen to complete installation.
4. Restart the system.

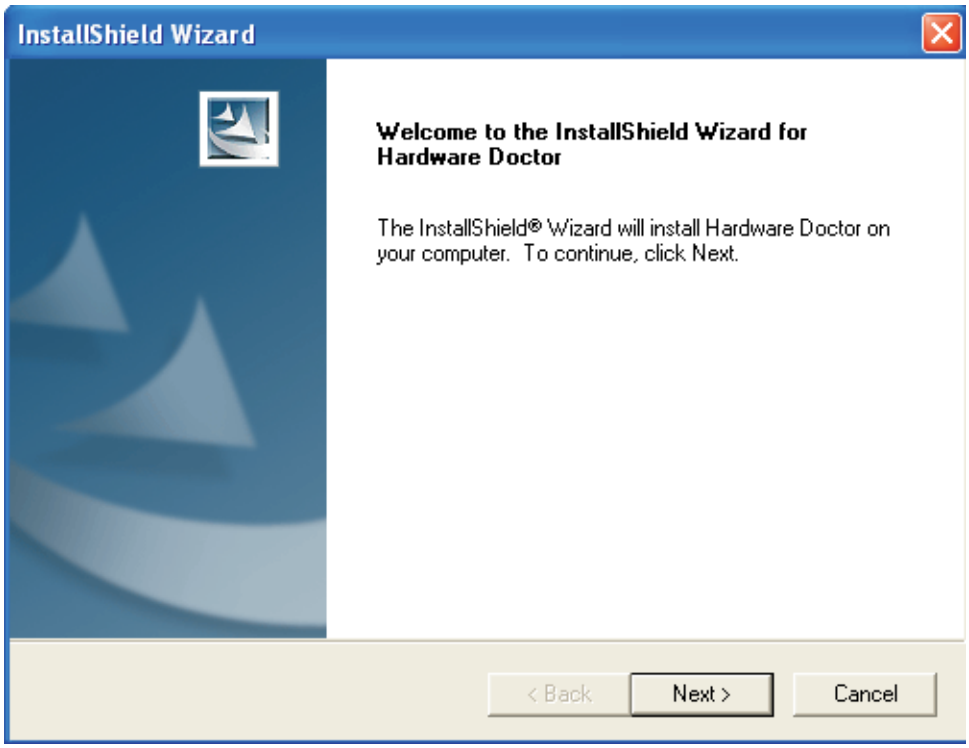
## 4.1.6 Hardware Monitor for Windows

Hardware Monitor for Windows is capable of monitoring the system's hardware conditions such as the temperature of the CPU and system, voltage, and speed of the cooling fans. It also allows you to manually set a range to the items being monitored. If the values are over or under the set range, a warning message will pop-up. The utility can also be configured so that a beeping alarm will sound whenever an error occurs. We recommend that you use the "Default Setting" which is the ideal setting that would keep the system in good working condition.

**Note:**
*Use this utility only in Windows® 98SE, Windows® ME, Windows® 2000, Windows NT® 4.0 or Windows® XP operating system.*

To install the utility, please follow the steps below.

1. On the left side of the autorun screen, click the "TOOLS" icon.
2. Click "Hardware Monitor for Windows" on the main menu. The screen below will appear.


InstallShield Wizard
Welcome to the InstallShield Wizard for Hardware Doctor
The InstallShield® Wizard will install Hardware Doctor on your computer. To continue, click Next.
< Back
Next >
Cancel

3. Follow the prompts on the screen to complete installation.

4. Restart the system.

## 4.2 Installation Notes

1. "Autorun" ONLY supports the Windows® 98, Windows® 98 SE, Windows® ME, Windows® 2000 and Windows® XP operating systems. If after inserting the CD, "Autorun" did not automatically start (which is, the Mainboard Utility CD screen did not appear), please go directly to the root directory of the CD and double-click "Setup".

2. All steps or procedures to install software drivers are subject to change without notice as the softwares are occassionally updated. Please go to DFI's web site at "http://www.dfi.com/support1/download2.asp" for the latest version of the drivers or software applications.

# Appendix A - System Error Message

When the BIOS encounters an error that requires the user to correct something, either a beep code will sound or a message will be displayed in a box in the middle of the screen and the message, PRESS F1 TO CONTINUE, CTRL-ALT-ESC or DEL TO ENTER SETUP, will be shown in the information box at the bottom. Enter Setup to correct the error.

## A.1 POST Beep

There are two kinds of beep codes in the BIOS. One code indicates that a video error has occured and the BIOS cannot initialize the video screen to display any additional information. This beep code consists of a single long beep followed by three short beeps. The other code indicates that a DRAM error has occured. This beep code consists of a single long beep.

## A.2 Error Messages

One or more of the following messages may be displayed if the BIOS detects an error during the POST. This list indicates the error messages for all Awards BIOSes:

### CMOS BATTERY HAS FAILED

The CMOS battery is no longer functional. It should be replaced.

**Caution:**

*Danger of explosion if battery incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the battery manufacturer's instructions.*

### CMOS CHECKSUM ERROR

Checksum of CMOS is incorrect. This can indicate that CMOS has become corrupt. This error may have been caused by a weak battery. Check the battery and replace if necessary.

### DISPLAY SWITCH IS SET INCORRECTLY

The display switch on the motherboard can be set to either monochrome or color. This indicates the switch is set to a different

setting than indicated in Setup. Determine which setting is correct, either turn off the system and change the jumper or enter Setup and change the VIDEO selection.

### FLOPPY DISK(S) fail (80)
Unable to reset floppy subsystem.

### FLOPPY DISK(S) fail (40)
Floppy type mismatch.

### Hard Disk(s) fail (80)
HDD reset failed.

### Hard Disk(s) fail (40)
HDD controller diagnostics failed.

### Hard Disk(s) fail (20)
HDD initialization error.

### Hard Disk(s) fail (10)
Unable to recalibrate fixed disk.

### Hard Disk(s) fail (08)
Sector Verify failed.

### Keyboard is locked out - Unlock the key
The BIOS detects that the keyboard is locked. Keyboard controller is pulled low.

### Keyboard error or no keyboard present
Cannot initialize the keyboard. Make sure the keyboard is attached correctly and no keys are being pressed during the boot.

### Manufacturing POST loop
System will repeat POST procedure infinitely while the keyboard controller is pull low. This is also used for the M/B burn in test at the factory.

### BIOS ROM checksum error - System halted
The checksum of ROM address F0000H-FFFFFH is bad.

### Memory test fail
The BIOS reports memory test fail if the memory has error(s).

# *Appendix B - Troubleshooting*

## B.1 Troubleshooting Checklist

This chapter of the manual is designed to help you with problems that you may encounter with your personal computer. To efficiently troubleshoot your system, treat each problem individually. This is to ensure an accurate diagnosis of the problem in case a problem has multiple causes.

Some of the most common things to check when you encounter problems while using your system are listed below.

1. The power switch of each peripheral device is turned on.
2. All cables and power cords are tightly connected.
3. The electrical outlet to which your peripheral devices are connected is working. Test the outlet by plugging in a lamp or other electrical device.
4. The monitor is turned on.
5. The display's brightness and contrast controls are adjusted properly.
6. All add-in boards in the expansion slots are seated securely.
7. Any add-in board you have installed is designed for your system and is set up correctly.

### Monitor/Display

**If the display screen remains dark after the system is turned on:**

1. Make sure that the monitor's power switch is on.
2. Check that one end of the monitor's power cord is properly attached to the monitor and the other end is plugged into a working AC outlet. If necessary, try another outlet.
3. Check that the video input cable is properly attached to the monitor and the system's display adapter.
4. Adjust the brightness of the display by turning the monitor's brightness control knob.

### The picture seems to be constantly moving.

1. The monitor has lost its vertical sync. Adjust the monitor's vertical sync.
2. Move away any objects, such as another monitor or fan, that may be creating a magnetic field around the display.
3. Make sure your video card's output frequencies are supported by this monitor.

### The screen seems to be constantly wavering.

1. If the monitor is close to another monitor, the adjacent monitor may need to be turned off. Fluorescent lights adjacent to the monitor may also cause screen wavering.

## Power Supply

### When the computer is turned on, nothing happens.

1. Check that one end of the AC power cord is plugged into a live outlet and the other end properly plugged into the back of the system.
2. Make sure that the voltage selection switch on the back panel is set for the correct type of voltage you are using.
3. The power cord may have a "short" or "open". Inspect the cord and install a new one if necessary.

## Floppy Drive

### The computer cannot access the floppy drive.

1. The floppy diskette may not be formatted. Format the diskette and try again.
2. The diskette may be write-protected. Use a diskette that is not write-protected.
3. You may be writing to the wrong drive. Check the path statement to make sure you are writing to the targeted drive.
4. There is not enough space left on the diskette. Use another diskette with adequate storage space.

## Hard Drive

### Hard disk failure.

1. Make sure the correct drive type for the hard disk drive has been entered in the BIOS.
2. If the system is configured with two hard drives, make sure the bootable (first) hard drive is configured as Master and the second hard drive is configured as Slave. The master hard drive must have an active/bootable partition.

### Excessively long formatting period.

If your hard drive takes an excessively long period of time to format, it is likely a cable connection problem. However, if your hard drive has a large capacity, it will take a longer time to format.

## Parallel Port

### The parallel printer doesn't respond when you try to print.

1. Make sure that your printer is turned on and that the printer is on-line.
2. Make sure your software is configured for the right type of printer attached.
3. Verify that the onboard LPT port's I/O address and IRQ settings are configured correctly.
4. Verify that the attached device works by attaching it to a parallel port that is working and configured correctly. If it works, the printer can be assumed to be in good condition. If the printer remains inoperative, replace the printer cable and try again.

## Serial Port

### The serial device (modem, printer) doesn't output anything or is outputting garbled characters.

1. Make sure that the serial device's power is turned on and that the device is on-line.
2. Verify that the device is plugged into the correct serial port on the rear of the computer.

3. Verify that the attached serial device works by attaching it to a serial port that is working and configured correctly. If the serial device does not work, either the cable or the serial device has a problem. If the serial device works, the problem may be due to the onboard I/O or the address setting.
4. Make sure the COM settings and I/O address are configured correctly.

## Keyboard

### Nothing happens when a key on the keyboard was pressed.

1. Make sure the keyboard is properly connected.
2. Make sure there are no objects resting on the keyboard and that no keys are pressed during the booting process.

## System Board

1. Make sure the add-in card is seated securely in the expansion slot. If the add-in card is loose, power off the system, re-install the card and power up the system.
2. Check the jumper settings to ensure that the jumpers are properly set.
3. Verify that all memory modules are seated securely into the memory sockets.
4. Make sure the memory modules are in the correct locations.
5. If the board fails to function, place the board on a flat surface and seat all socketed components. Gently press each component into the socket.
6. If you made changes to the BIOS settings, re-enter setup and load the BIOS defaults.